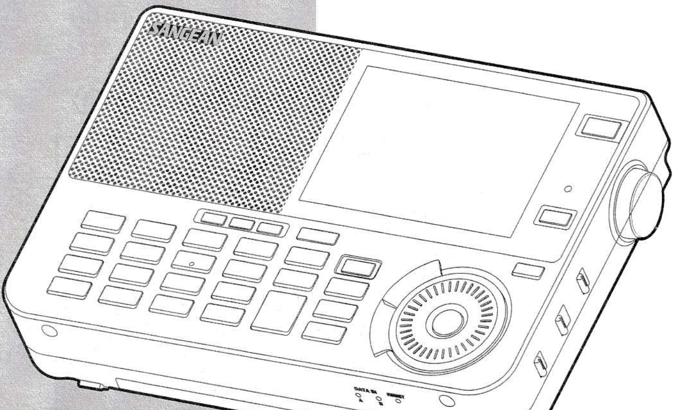
SANGEAN
SINCE 1974

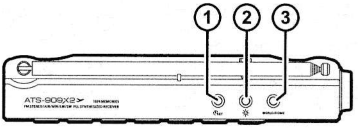
ATS-909X2

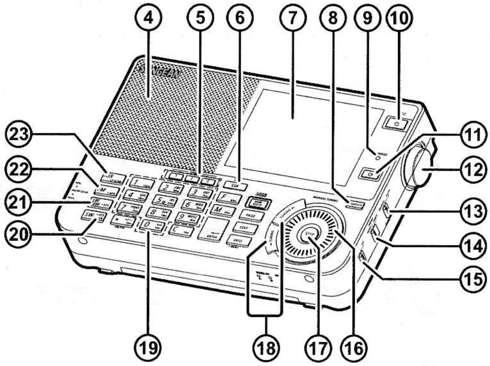
调频立体 / 航空 / 调幅 / 长波 / 短波
全波段 专业化数位型收音机

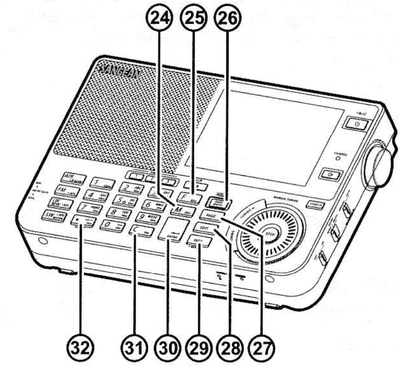
CH 使用说明书 .... 02 - 19

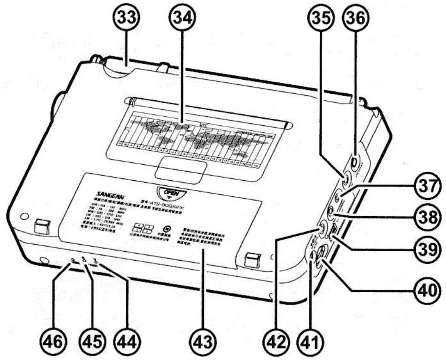
GB Operating instruction ...... 20 - 36

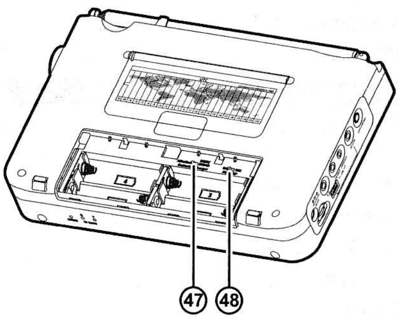


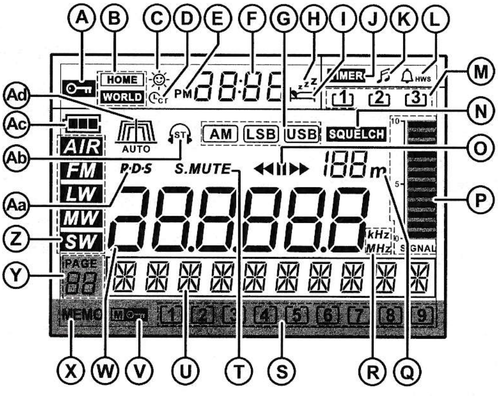

ATS-909X2
WORLD/HOME










HOME
WORLD
PM
TIMER
HWS
SQUELCH
AUTO
AM
LSB
USB
AIR
FM
LW
MW
SW
P·D·S
S.MUTE
kHz
MHz
SIGNAL
PAGE
MEMO

目录

注意事项 03

本机特点 03-04

按键使用 04-05

显示屏 05

包装清单 06

开机准备 07

电池供电 07

外接电源 07

警告 07

提示 07

注意 07

时间设置 07-08

时间格式 07

当地时间 07-08

世界时间 08

夏令时 08

收听广播 08

使用天线 08

伸缩天线 08

室外天线 08

随机天线 08-09

选台方式 10-11

ATS 一键收音 (FM / MW / LW) 10

ATS 一键收音 (SW) 10

自动搜索 (TUNING) 10

直输频率 (DIRECT) 10-11

手动调谐 (MANUAL) 11

预设电台 11

扫描频道 (AIR) 11

调谐步进 11

调频步进 11

中波步进 11

快速调谐 11

收听立体声 11

调整音量 12

预设电台 12

频道数量 12

预设电台 (MW / LW / FM / AIR) 12

预设电台 (SW) 12

调取预设电台 12

预设电台的锁定与解除 12

删除预设电台 12

预设频道的移动 12

预设频道的互换 12

业余电台收听 12-13

收听步骤 13

设置步进 13

广播数据 (RDS) 13

自动授时 13

高阶功能 13-15

菜单设置 13-14

米波段选择 14

RF 增益调节 14

短波优选收听 14-15

编辑城市名 15

编辑电台名 15

编辑电台名 (MW / LW / FM / AIR) 15

编辑电台名 (SW) 15

闹钟功能 15-16

设置闹钟 15

关闭闹钟 15

贪睡功能 15

取消闹钟设置 16

静噪音 (SQUELCH) 16

频带宽 16

自动调节频带宽 (ABC) 16

手动选择频带宽 16

频带宽参数 16

预约录音 (REC) 16

音效选择 (TONE) 16

充电电池 16-17

设置亮度 17

电台信息 17

常规信息 17

RDS 信息 17

自动关机 17

锁定键 17

音频输入 17

耳机插口 17

软件版本 17

参数规格 18

出厂设置 18

售后服务 19

联络信息 19

保修政策 19

CH

GB

重要

注意事项

1. 操作收音机之前，敬请详细阅读并了解本机所有的安全警告和操作说明。
2. 应妥善保存本操作说明书，以便随时参阅。
3. 请遵循产品上所有警告和操作提示。
4. 请遵循操作说明书使用本机。
5. **防水防潮：**本产品并不防水。请勿在浴缸、洗浴盆、洗衣盆、厨房水槽、潮湿的地下室、游泳池等附近有水的地方使用。
6. 清洁本机前，断开外接电源并将 AC 电源从插座拔下。仅限使用湿布 (擦拭不留下水汁痕迹) 清洁收音机外壳。
7. 请勿将收音机放在不稳定的推车、支架、柜子或桌子上。收音机可能会坠落，造成严重的人身伤害和机器损坏。
8. **通风：**使用本机应该将其摆放在可适当通风的位置。不应将收音机摆放在可能阻塞其通风口的地方，比如床、沙发、地毯或其他柔软的表面。另外，也避免将其放置在密闭或通风不畅的柜子内，可能会因空气流通不畅而影响正常使用。
9. 供电: 使用外接电源适配器或电池给本机供电，请严格依照机身提示以及要求，如果你无法确认家里的电源适配器规格是否符合本机使用，请咨询当地的经销商或联络山进中国区销售中心，电话 4006-1974-08。
10. **电源适配器：**交流电源适配器的位置应确保不会被踩踏、挤压，应将其放在安全位置，遇到紧急情况方便从插座上拔出。拔出适配器时，抓住适配器塑料部分而不是电线拔下。请按照适配器上注明的电源规格给其供电，如果不确定室内电源类型，请咨询经销商或当地供电公司。
11. 请勿超负载使用插座。这可能会导致火灾或触电风险。切勿将任何类型的物体插入收音机。物体可能会接触危险的电压或短路。这可能会导致火灾或电击并损坏本机。
12. 如果收音机长时间无人看管或未使用，请将电源适配器从插座上拔出，可避免雷电或电源浪涌造成的损坏。
13. 如果收音机无人看管且长时间未使用，请将电池取出。电池可能会漏液 (液体有腐蚀性) 损坏本机乃至报废，因电池漏液而导致收音机故障并不在保修范围。
14. 请勿尝试自己拆机维修。拆开本机以及电源适配器可能面临危险电压，并会使保修失效。
15. 请勿将任何类型的液体洒在产品上。
16. 以下情况请及时联络山进中国区售后服务中心处理：
    - **A.** 电源适配器电线开裂或断开。
    - **B.** 有异物进入收音机内部。
    - **C.** 收音机暴露在雨水或水中。
    - **D.** 收音机似乎不能正常工作或性能出现变化。
    - **E.** 收音机摔落地面或者外壳已损坏。
17. 连接外部天线时要小心高压电线和雷电构成的触电风险。

本机特点

1. AIR (航空波段) / FM (调频) / LW (长波) / MW (中波) / SW (短波) / SSB (单边带) 收音
2. ATS 一键自动扫描 (FM / MW / LW / SW) 电台并存储于频道
3. 自适应频带宽系统 (ABC)，监测电波强弱并自动调节频宽
4. 进一步优化 AM 波段的 RF 增益，极大的提升了接收灵敏度
5. 业余电台 (SSB 单边带) 收听，调谐步进精度高达 10Hz
6. 预留外接天线接口，配合信号衰减功能及本机的高抗负载能力，适合 DXer 远程收音
7. 更丰富的信息显示: RDS (电台名 / 节目信息)、SNR (信噪比)、RSSI (信号强度) 等
8. 预设电台永久保存，可用于 3 个用户或城市预存自己喜爱的电台，频道多达 1674 个
9. 自动接收、显示电台名称并支持用户自定义编辑电台名 (多达 10 个字符)
10. 6 种选台方式：直接输入频率、自动搜台 (ATS)、手动调谐、预设电台、飞梭调谐、频道扫描 (AIR 波段)
11. 短波 (SW) 预设频道页按信号强弱自动优选收听
12. 二次变频 (MW / LW / SW / AIR)
13. 3 组闹钟并支持唤醒山进专业录音机 DAR-102 (另购) 的录音功能

14. 背景噪声抑制功能 (SQUELCH)，自定义阀值过滤背景噪音
15. 音效选择 (Music / Normal / News)
16. 优化的立体声放大电路，耳机收听更动听
17. 菜单式 (MENU) 系统功能设置
18. 优化充电功能，支持电池故障检测

按键使用

① 时间设置 (TIME SET)
- 设置时间

② 夏令时 (DAYLIGHT)
- 启用 / 禁用 夏令时

③ 本地 / 世界 (HOME / WORLD)
- 选择本地或世界时间

④ 扬声器

⑤ 定时器 (TIMER)
- 设置闹钟 (1，2，3)
- 查看闹钟设置

⑥ 业余电台 (SSB) / 闹钟模式
- 切换至业余电台模式
- 闹钟声音 (蜂鸣声 / 电台) 选择

⑦ 显示屏 (LCD)

⑧ 静音阀设置 (SQUELCH)
- 调谐时跳过信号低于预设阀值的电台

⑨ 充电指示灯 (CHARGE) 指示器

⑩ 电源 (POWER) / 定时关机
- 打开 / 关闭收音机
- 切换定时关机时长

⑪ 显示屏背光 (BACKLIGHT)
- 设置背光亮度
- 打开背光 (关机状态)

⑫ 音量 (VOLUME)
- 调节音量大小

⑬ 频宽设置 (BANDWIDTH)
- 选择自动或手动模式

⑭ 音效 (TONE)
- 选择音乐 MUISC / 普通 NORMAL / 新闻 NEWS

⑮ 锁定 (LOCK)
- 启用 / 关闭 锁定

⑯ 调谐飞梭 (TUNING KNOB)
- 菜单选择
- 调节电台频率
- 选择 SW 波段预存频道页

⑰ 调谐步进 (STEP)
- 选择调谐的步进
- 长按停用飞梭选台
- 菜单 (MENU) 选择确认 (ENTER)

⑱ 向上 / 向下调谐选台 (UP / DOWN)
- 向上 / 向下
- 快速扫描电台频率
- 选择 SW 波段上的预存频道页
- 选择本地 / 世界时区
- 电台名编辑时向前或向后选择字符

⑲ 数字键 (NUMBERIC)
- 数字 0-9
- 预设频道选择
- 短波 (SW) 米波段 (METER) 选择

⑳ 短波 (SW) / 米波段 (METER)
- 切换至短波 (SW)
- 米波段 (METER) 选择
- 一键收音 (ATS)

㉑ 中波 (MW) / 长波 (LW)
- 选择 MW / LW 波段
- 一键收音 (ATS)

㉒ 调频 (FM)
- 切换至 FM
- 一键收音 (ATS)

㉓ 航空波段 (AIR)
- 切换至 AIR 波段
- 自动循环扫描预存页

㉔ 预设频道 (M)
- 储存电台频道
- 开机闹钟铃声预设为指定电台
- 25m 米波段 (METER) 选择

㉕ 频率 (FREQ)
- 直接输入电台频率
- 60m 米波段 (METER) 选择

㉖ 频带宽 / 预设频道锁定
- 选择频带宽 (BANDWIDTH)
- 预设频道锁定 (防止 ATS 时覆盖需保留的预设电台)

㉗ 频道页 (PAGE)
- MW / FM / AIR 波段预设频道页切换

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- SW 波段预设电台页 (PAGE) 的选择

㉘ 编辑 (EDIT)
- 在 MW / LW / FM / AIR 频段新建 / 编辑电台名
- 编辑 HOME / WORLD 城市名
- 在 SW 波段新建 / 编辑预存页 (PAGE) 的名称

㉙ 信息 / 菜单 (INFO / MENU)
- 显示电台信号强弱 (RSSI / SNR / db)
- 显示电台名称、节目信息等
- 显示内存 A / B / C
- 打开 / 关闭菜单 (MENU)

㉚ 确认 (ENTER)
- 确认输入

㉛ 取消 (CANCEL)
- 删除输入
- 删除预设频道
- 11m 米波段 (METER) 选择
- 取消闹铃声

㉜ 小数点 (POINT)
- 输入小数点
- 选择时钟 AM / PM
- 15m 米波段 (METER) 选择

㉝ 伸缩天线 (ANT)
- 增强 FM / AIR / SW 波段广播信号。使用前将天线基座拉出，收回时请勿用力过猛，同时确保天线被完全放入基座。

㉞ 支架
- 斜放收音机的支架

㉟ 音频输入 (AUX IN)
- 3.5mm，用于将手机、MP3 等音源输入收听

㊱ 外部天线 (AM EXT) 插孔
- 用于增强FM / AM / LW / SW / AIR 波段接收，需使用单声道 3.5mm 接头

㊲ 录音待机 (REC STANDBY) 插孔
- 2.5mm 插孔，用于连接山进专业 DAR-102 录音机 (需另购) 预约唤醒录音

㊳ 音频输出 (LINE OUT) 插孔
- 3.5mm 插孔，用于立体声音频输出或录音

㊴ 音频输入 (AUX IN) 开关
- 打开 / 关闭 AUX IN

㊵ 信号强弱调节 (AM RF)
- 调节 AM 收听时电波信号的强弱，避免过载

㊶ 直流输入 (DC) 插孔
- 9V / 1.2A 直流电源适配器的插孔，内正外负

㊷ 耳机插孔
- 3.5mm 插孔，适合耳机收听立体声节目

㊸ 电池仓
- 使用 4 节 AA (5 号) 电池供电
- 支持镍氢电池充电 (可单颗电池充电)

㊹ – ㊺ DATA IN A / B 接口
- 此接口仅用于生产过程通过专用设备设置，最终用户不会使用

  小心！用户不应使用此接口，因为它可能会损坏收音机

㊻ 恢复出厂 (RESET) 设置
- 若使用过程出现收音机无响应，可恢复出厂设置

㊼ 电池类型选择
- 选择收音机中使用的电池类型 (普通碱性或镍氢充电电池)

㊽ MW 调谐步进开关
- 选择 MW 的调谐步进 (欧洲为 9kHz，美国选择 10kHz)

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显示屏

Ⓐ 锁定

Ⓑ 本地 / 世界 时间

Ⓒ 夏令时

Ⓓ 无线电波校时 (RDS CT)

Ⓔ AM / PM (上午 / 下午)

Ⓕ 时间

Ⓖ 单边带 (LSB / USB)

Ⓗ 贪睡图示

Ⓘ 睡眠计时器

Ⓙ 定时闹钟

Ⓚ 广播节目闹铃声

Ⓛ 蜂鸣器闹铃声

Ⓜ 闹钟编号 (1 / 2 / 3)

Ⓝ 静噪音 (SQUELCH)

Ⓞ 调谐步进图标

Ⓟ 信号检测器

Ⓠ 短波米波段

Ⓡ kHz / MHz

Ⓢ 预设频道编号

Ⓣ 调谐静音标志

Ⓤ 信息框

Ⓥ 预设频道锁定标志

Ⓦ 频率显示

Ⓧ 频道记忆

Ⓨ 页号

Ⓩ 波段

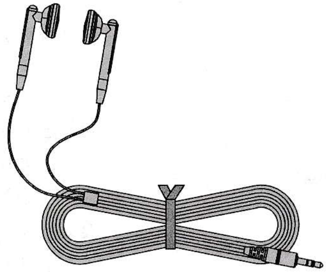
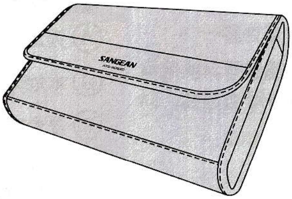
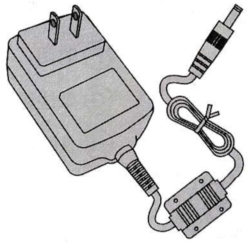
(Aa) RDS - 广播数据系统信号标志

(Ab) 立体声

(Ac) 电源

(Ad) 频带宽标志

包装清单

便携短波天线 ANT-60	
耳机	
皮套	
电源适配器	 中国

开机准备

本机供电可采用外接直流电源适配器或电池供电。

电池供电

电池供电需注意以下几点：

1. 电池盖 (43) 顺着箭头方向打开；
2. 将 4 节 AA 电池按照指示放入电池仓 (43)；
3. 选择合适的电池类型 (47) 。使用普通电池时，拨到 ALKALINE 位置；使用充电电池时，拨到 NIMH / NICAD 位置。
4. 关闭电池仓 (43) 。

屏幕上会显示电池电量。当电池电量低或者屏幕上的电池标志闪烁时应立即更换电池。

⚠ 注意

不同类型、不同容量、新旧不同的电池不能混用。3 分钟之内更换电池可保留时间。其他已存储的信息 (菜单设置、预设频道、闹钟、电台名等) 不会丢失。

⚠ 警告

本机只支持镍氢 / 镍铬 2 种可充电电池类型，不支持如锂电池等其它可充电电池。切勿对不支持类型可充电电池进行充电操作，有爆炸、起火危险。

外接电源

随机附带电源适配器交流输入 100-240 V 50/60 Hz，直流输出 9V / 1.2A，请确保连接的交流电压符合适配器规格。

将电源适配器插入本机 DC IN 插口 (41) 后，将自动终止电池供电，由外接电源适配器供电。

关机状态：若电池仓内是充电电池且电池类型选择 NiMH / NiCAD，此时充电指示灯 CHARGE 闪烁，表示充电中，通常 2100 毫安的镍氢可充电电池，充满电约 5 小时，充满电后指示灯熄灭。

⚠ 警告

1. 切勿对普通电池、锂电池充电 , 可能发生爆炸以及火灾。
2. 给充电电池充电时，需避免充电时无人看管，若发生异常 (电池温度过高、短路) 可及时终止，避免灾害发生。
3. 若长时间不使用收音机，请务必将电池全部取出，以免电池漏液，电池的漏液有强腐蚀性，会损坏收音机无法维修乃至报废，因电池漏液导致的收音机损坏不在保修之内。

⚠ 提示

1. 每次充电时间不要超过 7 小时，即使充电指示灯未灭，也需终止充电。充电时间超过 5 小时而指示灯未熄灭，可能因电池新旧、容量不一致而导致系统无法准确监测。
2. 充电需收音机处于关机状态，且充电的时间长短，因电池容量 (剩余电量)、环境温度、电源适配器输出功率而异，电池容量越大充电时间越长。
3. 请使用山进收音机原装专用的电源适配器 (ADA-0912)。

⚠ 注意

1. 用普通电池供电时，若音量明显变小、杂音变大、声音断续等异常现象，可能是电池电力即将耗尽，此时需考虑一次性全部换新电池。若充电电池供电，则需关机并连接山进专用电源适配器 (ADA-0912) 给电池充满电。
2. 随机附带的山进收音机专用电源适配器经过特别设计，降低了纹波以及杂讯，媲美电池的收听效果，建议你尽量使用外接电源适配器给收音机供电，节能减排为地球环保做贡献。

时间设置

开关机状态均可进行时间设置。

时间格式

机器默认 24H 制，也可通过设置更改为 12H 制。

1. 长按 INFO / MENU 键 (29) 进入菜单。
2. 旋转调谐飞梭 (16) 在信息框 (U) 里找到 FORMAT，并选择“12H”。
3. 按下 STEP 键 (17) 或 ENTER 键 (30) 保存设置。
4. 稍后或轻按 INFO / MENU 键 (29) 退出菜单。

当地时间

首先需选择正确的时区 (中国区选择 UTC+8 BEIJING)，再输入正确的时间。

1. 按一下 WORLD / HOME 键 (3) 。屏幕上 HOME 标志 (B) 开始闪烁，并显示预设的城市和时区值。
2. 使用飞梭 (16) 或 TUNING 键 (18) 选择城市和时区。
3. 按 ENTER 键 (30) 确认。
4. 按 SET 键 (1) 设置时间，此时 HOME 标志 (B) 再次闪烁。

5. 用数字键 (19) 输入时间，比如 10:10，则依次输入 1-0-1-0，再按 ENTER 键 (30) 确认。

⚠ 提示

时间在 0 点至 9 点时，无需在小时前加 0，直接输入 3 位数即可。例如 9:10，则依次输入 9-1-0，再按 ENTER 键 (30) 确认。

6. 若收音机时间制式设置为 12H，先按下 SET 键（1），此时 HOME 标志（B）闪烁，再按下小数点 (32) 切换 AM / PM。选择了 PM 后，屏幕上将显示 PM 标志 (E)，AM 是不显示的。

7. 输入时间后，按 ENTER 键 (30) 确认。

⚠ 注意

如果输入数字或字符时出错，请按取消键 (31) 删除最后输入的数字或字符，重复按此键可以删除多个数字或字符。

世界时间

CH

除了设置本地时间之外，还可以设置第二时区并显示该时区的时间，该时间称为世界时间。

GB

1. 按两下 WORLD / HOME 键 (3)，屏幕上 WORLD 标志开始闪烁。
2. 用飞梭 (16) 或 TUNING 键 (18) 选择时区 (城市)。
3. 按 ENTER 键 (30) 完成设置。

夏令时 (DST)

在夏季，天亮早，人为地将时间调快一小时，可使人早起早睡，减少照明量，以充分利用光照资源，从而节约能源。

本机夏令时功能，可通过夏令时键 (2) 激活或关闭此功能。激活夏令时功能后，夏令时标志 (C) 会在屏幕上显示。

收听广播

本机是全波段接收机，支持 SW、MW、LW、FM、AIR 和 SSB 收听。SW、MW、LW 和 FM 波段支持 ATS 一键收音功能，AIR 波段 (118-137 MHz) 支持 TUNING 键上下搜索和预设频道 (PAGE) 自动扫描。

⚠ 注意

有些国家和地区，未经许可，禁止收听航空波段。请在当地法律法规允许的情况下，使用本机收听航空波段。

使用天线

伸缩天线

收听调频、短波以及航空波段时，请调节收音机自带的伸缩天线 (33) 的长度以及角度，以便获得最佳的接收效果。

室外天线

若需尽可能发挥本机的接收性能，对应波段应搭配相适应的室外天线 (如长线天线、八木天线等)。将室外天线的一端接到 3.5mm EXT ANT 插孔 (36)，天线摆放的位置尽量在空旷的地方越高越好，这样可获得更佳的收听体验。

⚠ 提示

收音机若未接室外天线，想获得更好的收听体验，请尽量靠近窗户或室外使用，因为频率越低越容易受到周围环境以及电器的影响和干扰。

⚠ 警告

使用室外天线时，请做好避雷措施。

随机天线

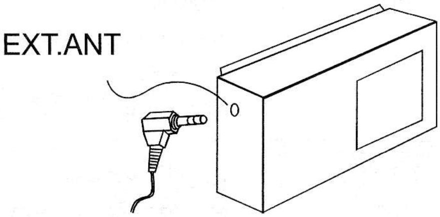
如何使用短波天线 ANT-60：

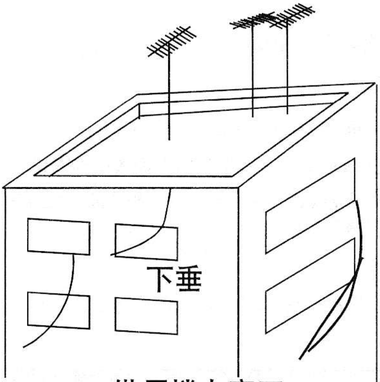
收听 SW 时，可以利用 ANT-60 短波外接天线改善接收，将天线连接在本机外接天线插孔，ANT-60 另一端拉出靠近窗户或户外并固定。固定的地方愈高愈好，周围愈空旷愈好。不论将它拉成水平状、垂直状、倾斜状皆可。总之让它能露在窗外或尽量靠近窗口，并尽量展开即可。视所在位置状况加以利用，如下页图供参考。

⚠ 注意事项

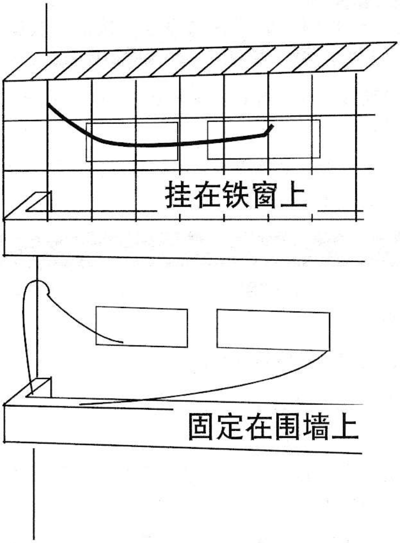
1. 切勿冒险攀高。
2. 请避开高压电线或万一遇强风致天线松脱、断裂、飘起状况时， 均不会碰触到任何电线之可能。
3. 若天线架设于室外且明显凸出于建筑物，遇打雷时，请将天线拆离收音机，并置于安全位置，以避免雷击。

固定夹

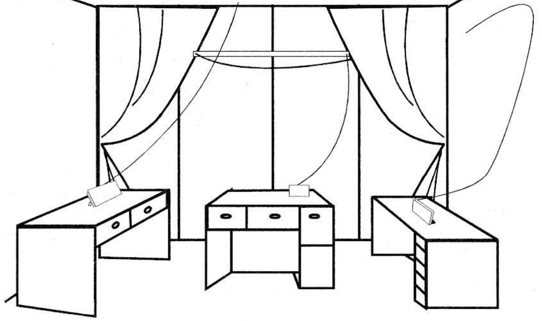




借用楼上窗口
在外面钉只钉子



室内



选台方式

本机共有 6 种调谐方式。

ATS 一键收音 (FM / MW / LW)

自动调谐系统(ATS)可用于MW，LW或FM波段上，以收音机为中心自动扫描附近有信号的广播电台，并按信号的强弱将电台频率存储于内存，便于以后调取收听。

步骤：

1. 开机，按电源键 (10) 。
2. 长按 MW / LW 键 (21) 或 FM 键 (22) 约 2 秒，听到“滴”的一声，则本机会在该波段开始自动扫描搜索电台，并存储电台频率于内存。
3. 扫描完成后，收音机将在首页（PAGE）上播放第一个预存电台频率 (通常这个电台信号最强)。

⚠ 注意

CH

由于 MW 和 LW 波段共享同一按键，按 MW / LW 键 (21) ，可在 MW 和 LW 之间切换。

GB

自动搜索时，当前波段未锁定的所有频道，将被删除。

如果搜索的电台多于可用的频道数，则多余的部分不会保存。

ATS 一键收音 (SW)

SW 波段也能使用 ATS 功能，操作过程与其他波段略为不同。

1. 开机，按电源键 (10) 。
2. 长按 SW 键 (20) ，“滴”的一声后，屏幕上闪烁“ATS START..”。
3. 使用调谐飞梭 (16) 在 1.7MHz 至 29.9MHz 之间选择开始频率。
4. 按 ENTER 键 (30) 确认后，屏幕上闪烁“ATS END..”。
5. 旋转调谐飞梭 (16) 在 2.7MHz 至 29.9MHz 之间选择终止频率，设定的搜索范围，截止频率需至少大于开始频率 1MHz。
6. 按 ENTER 键 (30) 确认。
7. 旋转调谐飞梭 (16) ，选择 ATS 的预存页 (PAGE) 码。
8. 按 ENTER 键 (30) 确认页 (PAGE) 码。
9. 当扫描完成，预存页码会被命名为“ATS-PRESET”，并自动播放页码的第一个电台。

⚠ 注意

在 SW 波段上使用 ATS 功能时，所选页 (PAGE) 码上未锁定的频道将被清除。

在 SW 波段上使用 ATS 功能时，收音机将依信号强弱排序存储电台频率于频道。若搜索到的电台数超过所选页 (PAGE) 可使用的频道数，超出部分将不会被保存。

若扫描过程中未搜索到电台，则返回至 ATS 预设的开始频率。

在 SW 使用 ATS 功能，建议扫描频率的范围设定为 5MHz 内，并在不同页面上重复扫描该范围，直到找不到新的电台为止。

自动搜索 (TUNING)

本机的自动搜索功能每个波段均可使用，搜索到适宜收听的电台后将停止扫描。

步骤：

1. 开机，按电源键 (10) 。
2. 选择波段。
3. 按住 TUNING 键 (18) 。
4. 本机会开始扫描，当搜索到适宜收听的电台停止扫描，如不喜欢此台再按一次继续扫描，直到搜索到自己喜爱的电台。

⚠ 注意

可以通过设置静噪音 (SQUCLSH) 级别过滤掉弱信号电台。

直输频率 (DIRECT)

直接输入频率：

1. 按电源键 (10) 开机。
2. 按 F 键 (25) 。
3. 使用数字键 (19) 和小数点 (32) 输入频率。

   例：

   FM 107.85MHz：按 F 键 (25) → 1 → 0 → 7 → . → 8 → 5 → ENTER。

   SW 25785kHz：按 F 键 (25) → 2 → 5 → 7 → 8 → 5 → ENTER。

   或按 F 键 (25) → 2 → 5 → . → 7 → 8 → 5 → ENTER。

   AIR 123.450MHz：按 F 键 (25) → 1 → 2 → 3 → . → 4 → 5 → ENTER。

   AM 1620kHz：按 F 键 (25) → 1 → 6 → 2 → 0 → ENTER。

   LW 257kHz：按 F 键 (25) → 2 → 5 → 7 → ENTER。

⚠ 注意

波段切换至 FM / AIR 时，输入频率须添加小数点。

手动调谐 (MANUAL)

1. 按电源键 (10) 开机。
2. 选择波段。
3. 使用调谐飞梭 (16) 或 TUNING 键 (18) 向上或向下搜素自己喜欢的电台频率。

预设电台

详见预设电台调取。

扫描频道 (AIR)

使用航空波段时，长按AIR键 (23) 可扫描页(PAGE)预设的航空波段频率。当进行扫描时，本机将循环搜索当前页面上保存的所有预设电台频率，并在扫描到通话信号后暂停扫描并播放通话内容。如果在预设的扫描延迟时间内未收到通话信号，则收音机将继续扫描其它预存的电台频率。

1. 开机状态下选择 AIR 波段。
2. 长按 AIR 键 (23) 开始扫描预设电台，直到找到有信号的频道。
3. 如果没找到合适的，机器会一直扫描。
4. 可再按一次 AIR 键 (23) 取消扫描。

⚠ 注意

普通航空波段通常用于短期通话。页面扫描功能可以同时监视 9 个预设电台。如果正在某个预设上接收到无线电信号，则收音机将停止扫描并停留在该预设频道。当收音机没有接收到信号，它将等待 0.5 秒至 2 秒 (取决于设置的扫描延迟)，如果依然未收到到通话信号，则继续扫描其它频道。

调谐步进

要调整 SW、MW、LW、FM 和 AIR 波段的步进，

1. 在收听广播时按下 STEP 键 (17) ，屏幕上显示 STEP 标志 (O) 。
2. 重复按下 STEP 可切换调谐步进快慢。
3. 长按 STEP 键 (17) 禁止调谐飞梭 (16) 选台，屏幕上显示暂停标志 (‖)，再按 STEP 键 (17) 可重新启用调谐飞梭 (16) 调谐。

调频步进

调整 TUNING 键 (18) 的步进，请按照以下步骤操作：

1. 按住 INFO / MENU 键 (29) 打开菜单。
2. 使用调谐飞梭 (16) 在信息框 (U) 中选择 “FM STEP” 。
3. 按 STEP 键 (17) 或 ENTER 键 (30) 进行设置，FM 步进将在信息框 (U) 中闪烁。
4. 使用调谐飞梭 (16) 选择 50kHz、100kHz 或 200kHz。
5. 按 STEP 键 (17) 或 ENTER 键 (30) 完成设置。
6. 按 INFO / MENU 键 (29) 关闭菜单。

中波步进

打开电池盖。

MW 调谐步进从电池仓内的步进选择 (48) 进行切换。该开关可以切换至 9kHz 或 10kHz 的位置。在欧洲和世界上大多数其它地区，此开关须置于 9kHz 位置，而在美国，此开关须置于 10kHz 位置。

快速调谐

本机具有快速调谐功能，按住 ENTER 键 (30) 并同时旋转调谐飞梭 (16) 可以使用此功能。快速调谐允许更快速度的切换频率，但只能在 AIR，FM 和 SW 波段上使用。

步进表：

		AIR	FM	LW	MW	SW
调谐飞梭	STOP	0	0	0	0	0
	FAST	25kHz	100kHz	9Hz	9kHz 10kHz	5kHz
	SLOW	5kHz	50kHz	1kHz	1kHz	1kHz
Tuning 键 (扫描 / 查找)		25kHz	50 kHz 100kHz 200kHz	9kHz	9kHz 10kHz	5kHz
快速调谐		1MHz	1MHz	-	-	100kHz

收听立体声

本机可以接收 FM 立体声广播。当调频电波信号较强时，FM 立体声标志 (Ab) 将显示在屏幕上，此时可通过耳机或者外接设备收听立体声广播。

⚠ 注意

通过使用菜单中的“FM STEREO”设置，可以启用或关闭立体声解码功能。在收听 FM 电台时，若信号不够强此时会有噪音，可关闭立体声解码功能减少噪音。有关设置此功能的更多详细信息，请参考“菜单设置”。

调整音量

收音机的音量可以通过顺时针 / 逆时针旋转音量键 (12) 来调大 / 减小音量。

预设电台

本机拥有 3 个内存，每个内存最多可存储 558 个电台频率 (频道)，共 1674 个频道。

频道数量

预设频道数分布 (单个内存)：

波段	页数 (每页 9 个频道)	频道数
AIR	5	45
FM	4	36
MW	3	27
LW	1	9
SW	49	441

CH

GB

预设电台 (MW / LW / FM / AIR)

1. 选择相应波段。
2. 调至喜欢的电台频率。
3. 按下 M 键 (24) ，MEMO 标志 (X) 和可用的频道 (S) 会在屏幕上闪烁。
4. 按下数字键 (19) ，即可将电台频率存储在预设的频道。

预设电台 (SW)

1. 使用电源键 (10) 打开收音机。
2. 选择 SW 波段 (19) 。
3. 调至喜欢的电台频率。
4. 按下 M 键 (24) ，使用调谐飞梭 (16) 或 TUNING 键 (18) 选择页码。
5. 按下数字键 (19) 将电台保存到相应的频道。

调取预设电台

调取 (MW / LW / FM / AIR)

1. 按电源键 (10) 开机。
2. 选择所需的波段。
3. 按 PAGE 键 (27) ，选择页。
4. 按任意数字键 (19) 调取预设的电台频率。

调取 (SW)

1. 按电源键 (10) 开机。
2. 选择 SW 波段 (20) 。
3. 按下 PAGE 键 (27) ，然后使用调谐飞梭 (16) 或 TUNING 键 (18) 选择所需的页 (PAGE)。
4. 按 ENTER 键 (30) 确认，并自动播放所选页 (PAGE) 信号最强的预设电台 (频道)。
5. 按任意数字键 (19) 调用相应的预设电台。

预设电台的锁定与解除

为了避免 ATS 一键收音功能将原预设的电台频道覆盖，此时可锁定相应频道避免被覆盖，随后自动扫描时，锁定电台会排在前列。

1. 调取预设电台。
2. 按 M 键 (24) ，该频道数闪烁着。
3. 按锁定键 (26) ，则该频道被锁住，显示屏有锁定符号 (V) 在闪烁。
4. 如需解除频道锁定，按 M 键 (24) ，则有 MEMO 标志 (X) 和该频道 (S) 闪烁着，再按一下锁定键 (26) ，锁定符号消失，即解除锁定。

删除预设电台

1. 调取预设电台。
2. 按 M 键 (24) ，MEMO 标志 (X) 和该频道 (S) 闪烁着。
3. 按 C 键 (31) 即可删除。

使用此方法无法删除锁定的电台。尝试删除锁定的预设电台时，信息框 (U) 将显示“MEMO LOCK”，在这种情况下，只能先解锁再将其删除。

预设频道的移动

1. 开机并调出预设电台。
2. 按 M 键 (24) 。MEMO 标志 (X) 和所选电台的位置 (S) 将在显示屏上闪烁。
3. 按 PAGE 键 (27) 选择页。
4. 按下预设的数字键 (19) 即可移动。

预设频道的互换

在同页 (PAGE) 里，两个预设频道互换步骤如下：调取频道 1 的电台，接着按 M 键 (24) ，再按数字 2，则保存于预设频道 1、2 的电台频率互换。

业余电台收听

业余无线电台，有火腿族 (HAM) 或香肠族之称。欲接收 SSB 业余无线电台信号，须知特定频率：

例如：

1. 国内火腿通联的 LSB 7050kHz（傍晚热闹）。
2. 上海海岸电台 LSB 8773kHz。
3. 美军电台 USB 13362kHz、10320kHz 白天 / LSB 5765kHz 、6350kHz 夜晚 。
4. 广州船台 USB 13149kHz、13107kHz 。
5. 日本气象 USB 13597kHz USB 、LSB 9970kHz。

还需要知道具体的发射时间。

SSB 分为下边带 LSB (10MHz 以下)、上边带 USB (10MHz 以上)，例如：军队聊天的频率 8967kHz (8.967MHz) 小于 10MHz，你应该用 LSB 模式收听。

收听步骤

1. 将 AM RF GAIN (40) 旋转至 MAX 位置。
2. 选择波段 SW / MW / LW。
3. 按 SSB 键 (6) 在 AM、USB 和 LSB 之间切换，屏幕上会显示当前的选择。
4. 选择后，按 STEP 键 (17) 选择 SLOW STEP，然后使用调谐飞梭 (16) 进行微调。

⚠ 注意

默认情况下，最小的步进为 20Hz，但在菜单里可以更改为 10Hz。

设置步进

1. 长按 INFO / MENU 键 (29) 进入菜单。
2. 旋转调谐飞梭 (16) 在信息框 (U) 里选择 “SSB STEP” 。
3. 按 STEP 键 (17) 或者 ENTER 键 (30) 。
4. 使用调谐飞梭 (16) 选择 10Hz 或者 20Hz。
5. 按 STEP 键 (17) 或者 ENTER 键 (30) 确认设置。
6. 按 INFO / MENU 键 (29) 关闭菜单。

SSB 步进表：

		LSB / USB		
		LW	MW	SW
调谐飞梭	STOP	0	0	0
	FAST	1kHz	1kHz	1kHz
	SLOW	20Hz / 10Hz	20Hz / 10Hz	20Hz / 10Hz
TUNING 键		9kHz	9kHz / 10kHz	5kHz

广播数据 (RDS)

本机能够接收 RDS / RBDS 信号。在收听 FM 电台时，若电台有发射 RDS 信号，且接收到的信号足够强，屏幕上会显示 RDS 标志 (Aa)，电台信息可通过 INFO / MENU 键 (29) 查看。

如果屏幕上显示 RDS CT 标志 (D)， 则表明收音机的时钟已与 FM 广播电台发射的时钟信号自动同步。此功能默认情况下未启用 (MENU → (TIME) → (MANUAL)，需启用此功能 (MENU → (TIME) → (RDS CT)，收音机才能同步电台发射的时间。

自动授时

RDS CT 是一项方便实用的功能。收听调频广播时，同步来自电台发射的时间。

⚠ 注意

并非所有电台都有 RDS 信号，许多电台发射的时间并不准确，此时可切换到 (MENU → (TIME) → (MANUAL)，使用本机的时钟。

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高阶功能

菜单设置

以下设置可在菜单里找到：

手动 / RDS 时间 [MANUAL / RDS CT]	**[RDS CT]:** 无线电波自动校时 **[MANUAL]*:** 手动设置时间
时间制 [FORMAT]	**[24H]*:** 24H 制 **[12H]:** 12H 制
背光 [Backlight]	**[LIGHT 10S]:** 背光灯开启 10 秒 **[LIGHT 20S]*:** 背光灯开启 20 秒 **[LIGHT 30S]:** 背光灯开启 30 秒
立体声解码 [FM stereo]	**[FM.ST AUTO]*:** 开启调频立体声解码功能 **[FM.ST MONO]:** 关闭调频立体声解码功能 通过开启立体声解码，在调频信号足够强的情况下用耳机或外接音箱收听立体声广播节目，若收听时有较多噪音，可通过此设置关闭立体声解码功能。
软静音调谐 [SOFT MUTE]	**[S. MUTE ON]:** 开启调频调谐软静音功能 **[S. MUTE OFF]*:** 关闭调频调谐软静音功能 软静音功能可抑制或减少调谐过程的背景噪音。

存储空间 A / B / C [MEMOBANK A / B / C]	**[MEMOBANK A]*:** 选择 MEMO A **[MEMOBANK B]:** 选择 MEMO B **[MEMOBANK C]:** 选择 MEMO C 本机预设 3 个内存空间，每个空间可预设 558 个频道，一共可存储 1674 个频道。
FM 步进 [FM STEP]	**[FM 50kHz]:** FM 步进设置为 50kHz **[FM 100kHz]*:** FM 步进设置为 100kHz **[FM 200kHz]:** FM 步进设置为 200kHz
FM 频率范围 [FM RANGE]	**[FM 64-108M]:** FM 频率范围设置为 64–108 MHz **[FM 76-108M]:** FM 频率范围设置为 76–108 MHz **[FM 87-108M]:** FM 频率范围设置为 87–108 MHz 此设置可根据你所居住的国家或地区来设定，通常中国 / 欧洲 76-108 MHz，美国设定为 87-108 MHz，俄罗斯 / 日本 64-108 MHz
SSB 步进 [SSB STEP]	**[SSB 10Hz]:** SSB 步进调为 10Hz **[SSB 20Hz]*:** SSB 步进调为 20Hz
提示音开关 [BEEP ON / OFF]	**[BEEP ON]:** 打开操作提示音 **[BEEP OFF]:** 关闭操作提示音
扫描延迟 [SCAN DELAY]	**[P.SCAN 0.5S]:** 扫描延迟 0.5s **[P.SCAN 1.0S]*:** 扫描延迟 1.0s **[P.SCAN 1.5S]:** 扫描延迟 1.5s **[P.SCAN 2.0S]:** 扫描延迟 2.0s 此页扫描功能仅适用 AIR 波段。设定扫描频道无信号延迟的时间。
固件版本 [VER XXX]	显示软件版本， 版本仅供参考，不可更改。
恢复出厂设置 [FACTORY]	**[RESET NO]*:** 终止恢复出厂设置 **[RESET YES]:** 确认恢复出厂设置 恢复出厂设置会将时间 / 闹钟 / 菜单设置恢复为出厂默认设置。预设电台不会被删除。

提示：带“*”菜单项为默认设置。

米波段选择

选择 SW 波段后，还可以选择米波段快速切换收听频率。总共有 14 个米波段可用，选择步骤：

1. 按 SW 键 (20) 。
2. 再按 SW 键 (20) ，则屏幕上有 M 标志 (Q) 在闪烁。
3. 按米波段的数字键 (19) 即可。(如按键 1 即 120m，按键 2 即 90m)。

各米波段的频率范围如下：

USER INPUT	米波段	频率范围 (MHz)
1	120m	2.300-2.495
2	90m	3.200-3.400
3	75m	3.900-4.000
Freq	60m	4.750-5.060
4	49m	5.900-6.200
5	41m	7.100-7.350
6	31m	9.400-9.990
Memo	25m	11.600-12.100
7	21m	13.500-13.870
8	19m	15.100-15.800
9	16m	17.480-17.900
●	15m	18.900-19.020
0	13m	21.450-21.750
Cancel	11m	25.600-26.100

⚠ 注意

选择米波段之后，长按 TUNING 搜索会在这个米波段频率范围内循环。如需改变，按 TUNING 键、转动飞梭或直接输入频率方式跳出此频率范围。

RF 增益调节

AM RF 信号增益调节 (40) ，常用于 AM 波段。日常使用调至 MAX 位置，当相邻频率有过强的电台信号时常常会导致信号饱和，此时可通过 AM RF 调节适度衰减 RF 增益，让较弱的更远的电台信号，达到最佳之收听体验。

短波优选收听

SW 智能优选功能，将广播电台同一时间针对不同方向发射的不同频率设定在一个 PAGE，切换 PAGE 时按 ENTER 确认，本机可自动调取信号最强的电台频率收听。

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例如：PAGE 1 规划给 BBC AM 6:00-7:00，假设这个时间段有三个频率同时发射，可将三个频率分别预设在 P1 1、2、3 频道，PAGE 2 规划给 BBC PM 7:00-8:00，若这个时间有 5 个频率同时在发射，将这 5 个频率预设在 P2 1、2、3、4、5 频道，通过切换 PAGE + ENTER 按键本机将智能优选当前 PAGE 信号最强的频率收听。

编辑城市名

预设城市名编辑。

如需编辑预设城市名，请按下列步骤操作：

1. 按 WORLD / HOME 键 (3)，找到需更名的城市。
2. 按 EDIT 键 (28)，城市名的首个字符开始在信息框 (U) 中闪烁。
3. 使用调谐飞梭 (16) 或数字 (字符) 键 (19) 更改字符。
4. 按 TUNING 键 (18) 左 / 右选择字符，然后重复步骤 3 更改字符。
5. 如果要输入的名称比原始名称短，请使用 TUNING 键 (18) 和 C 键 (31) 选择并删除多余的字符。
6. 按 ENTER 键 (30) 完成设置。

编辑电台名

编辑电台名 (MW / LW / FM / AIR)

选择预设电台。

1. 按 EDIT 键 (28)，信息框 (U) 的第一个标志在屏幕上闪烁。
2. 用调谐飞梭 (16)、数字键 (19) 或 TUNING 键 (18) 选择并进行编辑。
3. 按 ENTER 键 (30) 确认并保存。

编辑电台名 (SW)

在 SW 波段上，只有预存的页 (PAGE) 具有名称。要更改预存页 (PAGE) 的名称，请按照下列步骤操作：

1. 打开收音机，选择 SW 波段，然后如前所述选择所需的预存页 (PAGE)。
2. 按 EDIT 键 (28)，页 (PAGE) 名称的第一个字符在信息框 (U) 中闪烁。
3. 用调谐飞梭 (16) 或数字键 (19) 和 TUNING 键 (18) 选择字符，进行编辑并输入名称。
4. 按 Enter 键 (30) 保存。

⚠ 温馨提示

短波电台名设定以页 (PAGE) 为单位。

闹钟功能

本机 3 组闹钟，使用 TIMER 键 (5) 进行设置，可使用蜂鸣声或电台作为唤醒铃声。

设置闹钟

1. 按 TIMER 中的任意键，TIMER 标志 (J) 以及对应的数字 (M) 还有闹铃的类型 (K / L) 会在屏幕上显示。
2. 用 SSB 键 (6) 选择闹铃的类型 (电台或者蜂鸣声)。
3. 用数字键 (19) 设置闹钟时间 (比如 11:00，可依次按下 1-1-0-0)。
4. 按 ENTER 键 (30) 确认闹钟时间和闹铃类型。
5. 如需蜂鸣声作为铃声，步骤如下：按 TIMER 键 (5)，再按 SSB 键 (6) 选择蜂鸣器符号 (L)，按数字键 (19) 设置闹钟时间，按 ENTER 键 (30) 设置完成。
6. 如需电台作为铃声，步骤如下：

   按 TIMER 键 (5)，再按 SSB 键 (6) 选择音乐符号 (K)，按数字键 (19) 设置闹钟时间按下 ENTER 键（30）。接着选择想要设置的已存储的电台频率，按下 M 键（24）后，对应的存储数字在闪烁，再按下 TIMER 键（5）听到“滴”的一声后，设置完成。
7. 如果收音机设置为 12H 制，请按 SET 键（1）和小数点按钮（32）设置 AM 或 PM。选择了 PM 后，显示屏上将显示 PM 标志 (E)。

设置了闹钟时间并启用后，相应的闹钟标志 (M) 将显示在收音机的显示屏上。最接近当前时间的闹铃在闹钟标志 (M) 中用矩形标记。

⚠ 注意

闹钟的蜂鸣声使用人性化唤醒系统 (HWS)。这意味着，当闹钟响起时，闹铃将轻柔地响起并逐渐增大音量。除非关掉闹钟，否则它将在 30 分钟的时间内重复响 1 分钟并静音 1 分钟。如果将电台作为闹铃，除非停止，否则闹钟将在选定的时间连续播放 60 分钟。

关闭闹钟

按电源键 (10) 直接关闭。

贪睡功能

闹钟响起后，按下任意键 (电源键和背光键除外) 可暂停 5 分钟，5 分钟之后再持续闹铃，共 60 分钟。贪睡标志 (H) 会在屏幕上显示。

取消闹钟设置

按下 TIMER 键 (5)，屏幕上有 TIMER 标志闪烁，然后按 C 键 (31) 即可取消闹钟。

静噪音 (SQUELCH)

通过静噪音 SQUELCH 键 (8) 可让信号强度未达标之广播频率保持静音，提升收听体验。

建议将静噪音等级保持在尽可能低的水平 (建议 3 以下)，如果将静噪级别设置得太高，将会过滤掉强台。

静噪音设置步骤：

1. 开机状态下按 SQUELCH 键 (8)，信息框 (U) 里显示“SQUELCH”。
2. 通过调谐飞梭 (16) 选择级别。
3. 按 ENTER 键完成设置。
4. 选台或调取预存频道时，收听之频率信号强弱若未达到 SQUELCH 预设级别，收音机将处于静音状态，此时屏幕显示 SQUELCH 标志。

频带宽

带宽之设定可以在接收强信号时提升音质，而通过调节带宽可以让弱信号电台收听体验更佳。需要注意的是，在 FM 频段上选择最窄的带宽时，立体声解码功能因信号的变化可能无法启用。

自动调节频带宽 (ABC)

使用自动带宽设置时，将 BANDWIDTH 开关 (13) 拨到 AUTO 处。带宽将根据信噪比自动调整为最佳设置，本机每 300 毫秒监视一次信噪比，并在需要时自动调整带宽。

手动选择频带宽

1. 将 BANDWIDTH 开关 (13) 拨至 MANUAL (手动) 位置。
2. 按 BANDWIDTH 键 (26) 选择所需的带宽。
3. 屏幕上的带宽标志 (Ad) 会显示当前选择的带宽。

⚠ 注意

当使用上边带和下边带时，带宽无法设置。在这种情况下，按下 BANDWIDTH 键 (26) 无效。

频带宽参数

AIR 波段和 FM 波段可设置三种带宽，SW / MW / LW 波段可设置五种带宽。

Bandwidth	Indicator	FM	MW / LW	SW	AIR
WIDEST	AUTO	110kHz	6kHz	4kHz	6kHz
WIDE	AUTO	-	4kHz	3kHz	-
NORM	AUTO	85kHz	3kHz	2.5kHz	4kHz
NARROW	AUTO	-	2.5kHz	1.8kHz	-
NARROWEST	AUTO	65kHz	1.8kHz	1kHz	2kHz

预约录音 (REC)

本机支持连接外部录音机 (山进 DAR-102 专业录音机，需另购) 开启预约录音功能，通过专用的连接线，可将喜欢的广播节目在指定的时间录制下来。

准 备：ATS-909X2 1 台、DAR-102 1 台 (以下简称录音机)、专用录音线 1 根、SD 卡 1 张 (建议 SANDISK 8G 卡)。

1. 将录音控制线的一端插入 ATS-909X2 的 STANDBY 和 LINE OUT 接口。
2. DAR-102 安装好电池以及插入 SD 卡。
3. DAR-102 录音模式调至中间音乐 (卡带) 模式。
4. 要通过 ATS-909X2 激活 DAR-102 录音，需要在录音机上设置。
   a. 录音机录音来源 (REC SOURCE) 设置为 Line，具体路径 MENU → RECORD SETUP → REC SOURCE → LINE。
   b. 录音机开启待机模式，具体路径 MENU → RECORD SETUP → REC STANDBY → 设置为 ON。
5. 设置 ATS-909X2 定时闹铃开机，并设定闹铃声为指定电台频率，ATS-909X2 关机后，在预设的闹铃时间 ATS-909X2 将自动开机并激活 DAR-102 录音机，录制预设电台的节目。

音效选择 (TONE)

收音机右侧的音调控制开关 (14) 可用来调整收音机的音效。音效三档可选，MUSIC 音乐，NORM 一般，NEWS 新闻。

⚠ 注意

将开关置于“NEWS”位置，也可用于减少 AM / USB / LSB 频带上的噪声以及提高音质。

充电电池

收音机关闭后，本机将给可充电电池充电。 使用

本机给电池充电之前，请先确保所使用的电池为 NiMH / NiCAD 类型可充电电池。

按照以下步骤为电池充电：

1. 打开电池仓按指示放入 4 节镍氢 (NiMH) 电池。
2. 将电池类型选项拨到 NiMH / NiCAD 的选项。
3. 在机器关机状态下给电池充电，充电指示灯 “CHARGE”（9）会闪烁。

充满电后，信息框 (U) 里会显示“BATT FULL”信息。

⚠ 注意

如果在给电池充电时，本机检测到电池有故障，屏幕上信息框将显示 (U) 信息“BT-X-CHECK”，其中“X”代表需要检查或更换的电池位置 (例如“BT-1-CHECK”表示需要检查或更换电池仓内 1 号位的电池)，在电池仓盖 (43) 和电池仓 (43) 的内部均标注了电池位。

设置亮度

液晶屏背光方便你在夜晚未开灯的情况下使用本机。

背光键 (11) 二个用途，1、打开屏幕灯光 2、复按设置灯光的亮度级别。

电台信息

常规信息

INFO / MENU 键 (29) 可在所有本机波段 (FM / MW / LW / SW / AIR) 下使用，即使调频 (FM) 广播未发射 RDS / RBDS 信号，复按 INFO / MENU 键 (29) 也可显示以下信息：

Layer	SW / MW / LW / AIR / FM without RDS or RBDS
1	预设电台或页码的名称
2	RSSI / 信号强度
3	SNR / 信噪比
4	MEMO A / B / C / 内存
Note: RDS = RADIO DATA SYSTEM	

⚠ 注意

如果调频接收到电台发射的 RDS / RBDS 信号，则按 INFO / MENU 键 (29) 可显示 RDS 信息，详情参考 RDS 信息。

RDS 信息

当调谐到有 RDS 的 FM 电台时，当收听的调频 (FM) 电台有 RDS 信号时 (品名显示 RDS 标志)，可按 INFO / MENU 键 (29) 在信息框 (U) 中显示正在广播的信息。C 重复按将依次显示以下信息：

Layer	FM with RDS or RBDS
1	电台名
2	PS / 节目内容
3	PTY / 节目类型
4	RT / 广播信息
5	RSSI / 无线电信号强度指示
6	SNR / 信噪比
7	MEMO A / B / C / 内存
Note: RDS / RBDS: 无线电数据系统	

自动关机

按住电源键 (10) 听到“滴”的一声，屏幕上会显示 90..10 的数字，单位为分钟，看到所需计时关机数，松开电源键 (10) 即可。

锁定键

LOCK 键 (15) 开启后可防止携带或录音过程意外操作。

将 LOCK 键 (15) 拨到 ON 的位置时，LOCK 标志 (A) 将显示在屏幕上，锁定后按钮均不起作用 (包含开关机)。拨到 OFF 位置解锁，LOCK 标志 (A) 从屏幕消失，各按键功能恢复。

音频输入

本机可作为有源音箱用。

你只需准备一根 3.5mm to 3.5mm 的音频线，将音频线插在外部音源 (如 iPod、MP3 播放器、CD 播放器等) 3.5mm 的音频输出或耳机插孔，另一端连接至收音机的 AUX IN 插孔 (35) ，然后按 ON / OFF (39) ，通过音量键 (12) 调节至合适音量，即可用本机音频输入功能享受动听的节目。

耳机插口

将 3.5mm 的立体声耳机插在本机左侧的耳机插孔 (42) ，可聆听调频立体声广播 (电台有发射立体声节目，同时本机有启用调频立体声解码功能，而且电波信号足够强时方能收听到广播立体声) 耳机插入本机后，内置扬声器将断开。

软件版本

可在 MENU 中或通过以下步骤显示本机固件版本：

1. 关机状态。
2. 按 ENTER 键 (30) ，此时，固件版本 (VER 000) 在液晶频信息框中显示。

参数规格

电路系统	DUAL PLL / 二次变频 / DSP 数字解调
频率范围	调频 87-108 MHz (美国) 76-108 MHz (中国 / 欧洲) 64-108 MHz (俄罗斯)
	中波 520-1710 kHz (美国) 522-1710 kHz (中国 / 欧洲)
	长波 153-519 kHz (美国) 100-519 kHz (中国 / 欧洲)
	短波 1.711-29.999 MHz AIR 118MHz - 137MHz / 航空波段 SSB 100-29999kHz (LSB / USB) / 单边带
内存	3 个 * 558 = 1674 个预存频道
电池类型	**4 x UM3 (AA / 5 号电池)**
充电时间	约 5 小时 (2100mAH 时)
电池寿命	约 24 小时
外接天线	3.5mm 插孔 ，阻抗 : 50 欧姆 @ 10MHz
直流输入	9V / 1.2A 内正外负 , 中心尖端销直径 : 2.0mm * 建议用 SANGEAN ADA-0912
电池供电	普通 / 镍氢电池 4 节 x 1.5V (5 号电池)
耳机输出	3.5mm 立体声插口，支持立体声解码
录音输出	3.5mm 立体声插孔，电平 : 150mVrms - 30% 阻抗 : 1k 欧姆
录音控制	2.5mm 插孔
喇叭输出	3 英寸 / 4 欧姆 / 3W；外置电源 1.3W / 电池 600mW
屏幕参数	约 3.8 英寸 / 带背光
耳机输出	32 欧姆 5+5 mW
工作温度	-10 – 45°
本机尺寸	207*134.5*41mm (约)
本机重量	728g (约)

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出厂设置

收音机底部的 RESET (46) 仅将时间和微处理器恢复至出厂设置，其它设置如闹钟、预设电台仍将保留。

售后服务

联络信息

山进 (中国) 服务中心
邮箱 : cs@sangean.com
地址 : 江苏省苏州市虎丘区珠江路 521 号 2 号楼
山进售后
电话 : 4006-1974-08

服务时间 : 周一至周五 9:00-17:00 (法定假日除外)

保修政策

凭购买记录或发票，非人为损坏，主机保修 1 年，配件 1 年。过保机器检修，将酌情收取一定检修人工费、材料费以及返程运费。

执行标准：GB17625.1-2012；GB8898-2011；
GB/T13837-2012

* 山进保留说明书修订不另行通知之权利

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Table of Contents

1. IMPORTANT 21
IMPORTANT SAFETY INSTRUCTIONS 21

2. YOUR ATS-909X2 RADIO 21-24
INTRODUCTION 21
WHAT'S IN THE BOX 22
CONTROLS 22-24
INFORMATION ON DISPLAY 24

3. GETTING STARTED 24-26
POWERING THE RADIO 24-25
OPTION 1: BATTERIES 24-25
OPTION 2: USING AN EXTERNAL POWER ADAPTER 25
SETTING THE CLOCK FORMAT 25
SETTING THE TIME 25
SETTING YOUR LOCAL TIME AND TIME ZONE 25
SETTING A WORLD TIME 25
DAYLIGHT SAVING TIME 25
RENAMING TIME ZONE CITIES 25-26

4. LISTENING TO THE RADIO 26-29
TUNING TO RADIO STATIONS 26-28
USING THE AUTOMATIC TUNING SYSTEM (ATS) – MW / LW / FM 26
USING THE AUTOMATIC TUNING SYSTEM (ATS) – SW 26
USING SCAN TUNING 27
USING MANUAL TUNING 27
SETTING THE TUNING STEP 27
STEREO RECEPTION 27-28
ADJUSTING THE VOLUME 28
USING PRESET STATIONS 28-29
STORING PRESET STATIONS IN MEMORY – MW / LW / FM / AIR 28
STORING PRESET STATIONS IN MEMORY – SW ONLY 28
RECALLING PRESET STATIONS – MW / LW / FM / AIR 28
RECALLING PRESET STATIONS – SW ONLY 29
LOCKING PRESET STATIONS 29
DELETING PRESET STATIONS 29
MOVING PRESET STATIONS TO ANOTHER POSITION 29
RENAMING PRESET STATIONS – MW / LW / FM / AIR 29
RENAMING PRESET PAGES – SW ONLY 29

5. ADVANCED TUNING FEATURES 29-31
SETTING THE METER BAND – SW ONLY 29-30
SINGLE SIDE BAND (SSB) RECEPTION – SW / MW / LW 30
SETTING THE SINGLE SIDE BAND TUNING STEP – SW / MW / LW 30
SETTING THE BANDWIDTH 30-31
PERFORMING A PAGE SCAN – AIR ONLY 31
SETTING THE SQUELCH LEVEL 31
SETTING THE RF GAIN 31

6. USING THE MENU 31-32

7. OTHER FEATURES 32-35
USING ALARM TIMERS 32-33
SETTING AN ALARM TIMER 32-33
WHEN AN ALARM SOUNDS 33
DEACTIVATING AN ALARM TIMER 33
SETTING THE SLEEP TIMER 33
DISPLAYING SIGNAL INFORMATION 33
USING THE RDS FEATURE – FM ONLY 33-34
USING THE RADIO TO CHARGE BATTERIES ... 34
SETTING THE DISPLAY BRIGHTNESS LEVEL 34
CHECKING THE SOFTWARE VERSION 34
USING THE TONE CONTROL SWITCH 34
USING THE LOCK SWITCH 34
USING THE AUX IN JACK 35
USING THE REC STANDBY / LINE-OUT JACKS 35
USING THE HEADPHONES JACK 35
USING THE RESET SWITCH 35

8. TECHNICAL DATA AND SPECIFICATIONS ... 35-36
TECHNICAL DATA 35
SPECIFICATIONS 36
DISPOSAL OF YOUR OLD PRODUCT 36

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1. IMPORTANT

IMPORTANT SAFETY INSTRUCTIONS

1. Read and understand all safety and operating instructions before the radio is operated.
2. **Retain instruction:** The safety and operating instructions should be retained for future reference.
3. Heed warnings. All warnings on the appliance and operating instructions should be followed.
4. Follow all operations and use instructions.
5. **Water and moisture:** The appliance should not be used near water. Do not use near a bathtub, washbowl, laundry tub, kitchen sink, wet basement, swimming pool, etc.
6. Unplug the radio from the AC power outlet before cleaning. Use only a damp cloth for cleaning the exterior of the radio.
7. Do not place the radio on an unstable cart, stand, bracket or table. The radio may fall, causing serious personal injury and damage to the radio.
8. **Ventilation:** This radio should be situated so that its location or position does not interfere with its proper ventilation. For example, the radio should not be used on a bed, sofa, rug or other soft surfaces that may block the ventilation openings. It should not be placed in a built-in situation like a cabinet that may reduce air flow through the ventilation openings.
9. **Power sources:** The radio should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your radio dealer, Power Company or Sangean.
10. **AC adaptor:** The AC adaptor should be positioned so it is not walked on, pinched, or items placed on top of it. Pay particular attention to wires at plugs, convenience receptacles, and the point where they exit from the unit. Unplug the AC adaptor by gripping the adaptor, not the wire. Operate the radio using only the current type of power source indicated. If you are not sure of the type of power supply to your home, consult your dealer, local power company or Sangean.
11. Do not overload wall outlets or extension cords. This can result in a risk of fire or electrical shock. Never insert objects of any kind into the radio through any openings. The objects may touch dangerous voltage points or short out parts. This could cause a fire or electrical shock and damage the radio.
12. If the radio is left unattended or unused for long periods of time, unplug it from the wall outlet. This will prevent damage caused by lightning or power line surges.
13. If the radio is left unattended and unused for a long period of time, remove the batteries. The batteries may leak and damage furniture of your radio.
14. Do not attempt to service the receiver yourself. Removing the cover may expose you to dangerous voltage and will void the warranty.
15. Never push objects of any kind into this radio through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock and damage the radio. Never spill liquid of any kind on the product.
16. The appliance should be serviced by qualified service personnel only when:

    A. The AC power supply cord or the plug has been damaged.

    B. Objects have fallen or liquid has been spilled into the radio.

    C. The radio has been exposed to rain or water.

    D. The radio does not appear to operate normally or exhibits a marked change in performance.

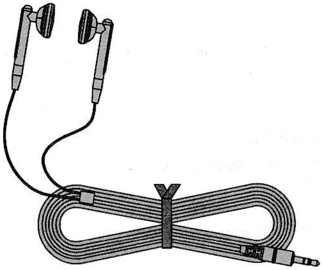
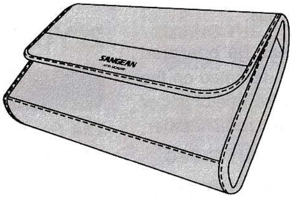
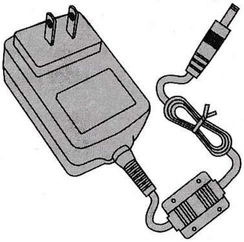
    E. The radio has been dropped, or the enclosure is damaged.
17. Be careful when connecting an external antenna for outdoor use. High-voltage power lines and lightning strikes constitute a risk of electric shock.

2. YOUR ATS-909X2 RADIO

INTRODUCTION

The Sangean ATS-909X2 PLL synthesized receiver provides the following range of features:

- Radio for Air / FM / LW / MW / SW broadcasts
- Automatic Tuning System for FM / LW / MW / SW band
- Total of 1674 radio station presets
- 3 memory banks for preset stations allow the radio to store presets for different users and / or different areas
- Local / World Time with 2 customizable city names
- FM RDS with PS, PTY, RT and CT features
- Comes with RF Gain Control for AM band
- SSB (Single Side Band): USB / LSB, 10/20 Hz / Tuning step
- 3 alarm timers with snooze feature
- Large LCD screen with backlight
- Built-in battery charger allows charging rechargeable batteries (not included)

ANT-60 Portable Shortwave Reel Antenna	
Earphones	
Sangean ATS-909X 2 with carrying bag	
Power adapter	 CHINA

CONTROLS

① Time Set button
- Set the time

② Daylight Saving Time button
- Enable / disable Daylight Saving Time

③ Home / World button
- Select home time or world time

④ Speaker

⑤ Timer buttons
- Set alarm timers (1, 2, 3)
- View alarm timer settings

⑥ Single Side Band (SSB) / Alarm mode button
- Switch between the single side bands
- Configure the alarm mode when setting alarm timers

⑦ LCD display

⑧ Squelch button
- Set squelch level

⑨ Charge indicator

⑩ Power / Sleep timer button
- Turn the radio on / off
- Set the sleep timer

⑪ Backlight button
- Set backlight brightness level
- Turn on backlight (when turned off)

⑫ Volume Control
- Set the volume

⑬ Bandwidth Control switch
- Select auto or manual mode for bandwidth control

⑭ Tone Control switch
- Select tone (music / normal / news)

⑮ Lock switch
- Enable / disable button lock

⑯ Rotary Tuning knob
- Highlight items in menus
- Adjust frequency
- Select page on the SW band

⑰ Step button
- Select tuning step
- Disable tuning using the Rotary Tuning knob
- Confirm menu selection

⑱ Tuning Up / Down buttons
- Tune up / down
- Scan for radio station with higher / lower frequency
- Select page on SW band
- Select Home / World city
- Go to next / previous character when editing text

⑲ Numeric buttons
- Input digits 0-9
- Select preset stations
- Select SW meter bands

⑳ ATS / METER / SW button
- Select SW band
- Enable selection of SW meter band
- Use Automatic Tuning System for SW band

㉑ ATS / MW / LW button
- Select MW / LW band
- Use Automatic Tuning System for MW / LW band

㉒ ATS / FM button
- Select FM band
- Use Automatic Tuning System for FM band

㉓ AIR button
- Select AIR band
- Perform page scan on AIR band

㉔ Memo button
- Store radio stations as preset station
- Store radio station for alarm timer
- Select SW 25 meter band

㉕ Freq button
- Direct tune to a frequency
- Select SW 60 meter band

㉖ Bandwidth / Memory Lock button
- Select bandwidth
- Lock preset stations

㉗ Page button
- Change the preset page on MW / FM / AIR band
- Enable page selection on SW band

㉘ Edit button
- Create / edit station name on MW / LW / FM / AIR band
- Edit home / world city name
- Create / edit page name on SW band

㉙ Info / Menu button
- Display information about signal
- Display RDS information
- Open / close the menu

㉚ Enter button
- Confirm user input

㉛ Cancel button
- Erase user input
- Delete preset station
- Select SW 11 meter band
- Disable the alarm function

㉜ Decimal point button

- Input decimal point
- Select AM / PM when the 12-hour clock format is selected
- Select SW 15 meter band

㉝ Telescopic antenna

- Enhanced reception on FM / AIR / SW band

㉞ Folding stand

- Can be used as a stand for the radio

㉟ AUX IN jack

- 3.5mm jack for audio input from external device

㊱ AM EXT. ANT jack

- Jack for external AM antenna, used to enhance reception on LW / MW / SW band

㊲ REC. STANDBY jack

- 2.5mm jack for timer activation of external recorder, synchronously controlled by alarm

㊳ LINE OUT jack

- 3.5mm jack for stereo audio output to external device

㊴ AUX IN button

- Enable / disable AUX IN mode

㊵ AM RF gain jog dial

- Set level of RF gain

㊶ DC in socket

- Jack for 9V 1.2A power DC adapter, center pin positive

㊷ Headphones jack

- 3.5mm jack for stereo audio output to headphones

㊸ Battery Compartment

- Enables use of radio on battery power
- Enables charging of rechargeable batteries

㊹ Data-IN A terminal

- This terminal is used for configuring the device in the factory and is not intended to be used by end-users

CAUTION! End-users should not use this terminal as it can damage the unit

㊺ Data-IN B terminal

- This terminal is used for configuring the device in the factory and is not intended to be used by end-users

CAUTION! End-users should not use this terminal as it can damage the unit

㊻ Reset button

- Reset microprocessor and clock time in case software is not responding

㊼ Battery switch

- Select the type of batteries that are used in the radio (Alkaline or NiMH / NiCad)

㊽ MW / AM Tuning Step switch

- Select tuning step for MW (9kHz for Europe, 10kHz for America)

INFORMATION ON DISPLAY

Ⓐ Button Lock indicator
Ⓑ HOME / WORLD indicator
Ⓒ Daylight Saving Time indicator
Ⓓ RDS CT indicator
Ⓔ PM indicator
Ⓕ Time display
Ⓖ SSB indicator
Ⓗ Snooze indicator
Ⓘ Sleep timer indicator
Ⓙ TIMER indicator
Ⓚ Radio alarm indicator
Ⓛ Buzzer alarm indicator
Ⓜ Timer number indicator
Ⓝ Squelch indicator
Ⓞ Tuning step indicator
Ⓟ Signal level indicator
Ⓠ SW meter band indicator
Ⓡ kHz / MHz indicator
Ⓢ Preset station indicator
Ⓣ SOFT MUTE indicator
Ⓤ Text display
Ⓥ Preset lock indicator
Ⓦ Frequency display
Ⓧ Memo indicator
Ⓨ Page indicator
Ⓩ Band indicator
(Aa) RDS indicator
(Ab) FM stereo indicator
(Ac) Battery level indicator
(Ad) Bandwidth indicator

3. GETTING STARTED

POWERING THE RADIO

The ATS-909X2 can be powered using battery power or AC power.

OPTION 1: BATTERIES

To power the radio using battery power, follow these steps:

1. Open the Battery Compartment cover (43) in the direction indicated by the arrow on the cover.
2. Insert 4 x UM-3 (AA Size) batteries into the Battery Compartment (43) with polarities as shown on the diagram on the cover and inside the compartment.
3. Place the Battery switch (47) in the appropriate position.

   When using non-rechargeable batteries, place it in the Alkaline (Batteries) position.

When using rechargeable batteries, place it in the NIMH / NICAD (Charger) position.

4. Close the Battery Compartment (43).

The battery level indicator (Ac) on the display shows the battery level. The batteries should be replaced when battery level is low or the battery level indicator (Ac) flashes.

> ⚠ **NOTE**
> Do not mix different types of batteries or rechargeable batteries with different capacities.

> ⚠ **NOTE**
> When replacing batteries, batteries must be replaced within 3 minutes in order to retain the clock time. Other information stored in the radio's memory will not be lost.

OPTION 2: EXTERNAL POWER ADAPTER

When using AC power, please use the AC power adapter included with this radio or any equivalent power adapter capable of providing DC 9V, 1.2A, center pin positive.

Before connecting the power adapter to a wall socket, please ensure that the voltage that the socket supplies is within the supported range (100~240 Vac, 50 / 60Hz). Connect the power AC adapter to the DC IN socket (41) and a wall socket. When the AC power adapter is connected, any batteries inserted in the radio will automatically be disconnected.

SETTING THE CLOCK FORMAT

The Time display (F) that displays the time can be set to 12 or 24-hour format when the radio is powered on or off. By default, the clock format is set to the 24-hour format and this setting only needs to be changed if the 12-hour format is preferred.

Perform the following steps to change the clock format:

1. Press and hold the Menu button (29) to open the menu.
2. Use the Rotary Tuning knob (16) to select "24H" in the Text display (U).
3. Press the Step button (17) or Enter button (30) to start configuring the setting. The current setting ("24H") will now blink in the Text display (U).
4. Use the Rotary Tuning knob (16) to select the desired time format.
5. Press the Step button (17) or Enter button (30) to confirm your choice.
6. Press the Menu button (29) to close the menu.

SETTING THE TIME

The time can be set when the radio is powered on or off.

SETTING YOUR LOCAL TIME AND TIME ZONE

In order to enter the correct local time, first set your local time zone and then set your local time.

Do this by performing the following steps:

1. Press the Home / World button (3) once.

   The HOME indicator (B) will now be blinking on the display and a city and time zone will be shown in the Text display (U).
2. Use the Rotary Tuning knob (16) or Tuning Up / Down buttons (18) to select your city or a city that is in the same time zone as you are.
3. Press the Enter button (30) to confirm your choice.
4. Set the time by pressing the Time Set button (1).

   The HOME indicator (B) will be blinking on the display again.
5. Use the numeric buttons (19) to enter a time (e.g. to enter 11:00, press 1-1-0-0).
6. If the radio is set to use the 12-hour clock format, press the Decimal point button (32) to set either AM or PM. When PM is selected, the PM indicator (E) will be shown on the display.
7. After entering the time, press the Enter button (30) to confirm it and complete setting your local time and time zone.

> ⚠ **NOTE**
> If you have made a mistake while entering a digit or character, press the Cancel button (31) to erase the last entered or selected digit or character. Press this button multiple times to erase more than one digit or character.

SETTING A WORLD TIME

Aside from setting your local time zone, the ATS-909X2 also allows you to set a second time zone and display the time in this time zone. This time is referred to as world time.

To select a time zone for the world time, follow these steps:

1. Press the Home / World button (3) twice.

   The WORLD indicator (B) will now be blinking on the display and a city and time zone will be shown in the Text display (U).
2. Use the Rotary Tuning knob (16) or Tuning Up / Down buttons (18) to select the city which is in the time zone of which you want the time to be displayed on your radio.
3. Press the Enter button (30) to confirm your choice and complete setting the time zone for the world time.
4. To switch between your local time and the world time, press the Home / World button (3) twice and then press the Enter button (30).

DAYLIGHT SAVING TIME

This radio comes with a Daylight Saving Time feature that can be activated or deactivated by pressing the Daylight Saving Time button (2). When Daylight Saving Time is activated, the Daylight Saving Time indicator (C) will be shown on the display.

RENAMING TIME ZONE CITIES

The ATS-909X2 allows you to customize the names of the cities that are pre-programmed into the radio's memory.

If you have selected a time zone city that you would like to rename, follow these steps:

1. Press the Home / World button (3) either once or twice, depending on which city name you want to change.
2. Press the Edit button (28).

   The first letter of the city name will now be blinking in the Text display (U).

3. Use the Rotary Tuning knob (16) or the numeric buttons (19) to change the character and input your desired character.
4. Press the Tuning Up / Down buttons (18) to go to the next / previous character and repeat the instructions in step 3 to edit the selected character.
5. If the name you want to enter is shorter than the original name, use the Tuning Up / Down buttons (18) and Cancel button (31) to select and erase any unwanted characters.
6. Press the Enter button (30) to confirm the city name.

4. LISTENING TO THE RADIO

TUNING TO RADIO STATIONS

The ATS-909X2 is capable of tuning to radio stations on the SW, MW, LW, FM and AIR bands. The radio features an Automatic Tuning System (ATS) that can be used to automatically store preset stations when the SW, MW, LW or FM band is selected. When the AIR band is selected, only manual tuning and scan tuning can be used to search for stations and preset stations must be stored manually.

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> ⚠ **NOTE**
> Listening to airband frequencies (118-137 MHz) without a license is prohibited in some countries. Only use this device to listen to airband frequencies when this is allowed under local laws and regulations.

> ⚠ **NOTE**
> For the best reception, please make sure the telescopic antenna on the back of the radio (33) is fully extended when listening to the FM, SW or AIR band. When listening to the SW, MW or LW band, make sure the included external AM antenna is connected to the AM EXT. ANT jack (36) and that the antenna is placed as high as possible and is not being obstructed.

USING THE AUTOMATIC TUNING SYSTEM (ATS) – MW / LW / FM

The Automatic Tuning System can be used to automatically scan for radio stations with a strong signal on the MW, LW or FM band and store these stations as preset stations. Since the MW and LW share the same button, simply press this button (21) twice to switch between the medium wave and the long wave.

Follow these steps to use the Automatic Tuning System on the MW / LW / FM band:

1. Turn on the radio using the Power button (10).
2. Press and hold either the ATS / MW / LW (21) or ATS / FM (22) button to activate the Automatic Tuning System for the corresponding band.
3. The radio will now search for all strong signals on the selected waveband and store the stations it finds as preset stations.
4. When the scan is completed, the radio will play the first preset on the first page (which is the station with the best reception).

> ⚠ **NOTE**
> When using the ATS feature on the MW / LW / FM band, all existing presets that have not been locked on that waveband will be cleared.

> ⚠ **NOTE**
> When using the ATS feature on the MW / LW / FM band, the radio will store preset stations based on signal strength. If more stations are found than there are presets available, the stations with the weakest signals will not be stored.

USING THE AUTOMATIC TUNING SYSTEM (ATS) – SW ONLY

The Automatic Tuning System can also be used on the SW band. The process for using it is slightly different from the process on the other bands.

Follow these steps to use the Automatic Tuning System on the SW band:

1. Turn on the radio using the Power button (10).
2. Press and hold the ATS / METER / SW button (20).

   The message "ATS START- " will be shown in the Text display (U).
3. Use the Rotary Tuning knob (16) to select the start frequency from 1.7MHz to 29.9MHz.
4. Press the Step button (17) or Enter button (30) to confirm the start frequency.

   The message "ATS END- " will be shown in the Text display (U).
5. Rotate the Rotary Tuning knob (16) to select the end frequency from 2.7MHz to 29.9MHz. The end frequency is always at least 1MHz higher than the selected start frequency, as the selected ATS frequency range must be larger than 1MHz.
6. Press the Step button (17) or Enter button (30) to confirm the end frequency.
7. Rotate the Rotary Tuning knob (16) to select the desired ATS preset page number.

   By default, page 30 will be selected.
8. Press the Step button (17) or Enter button (30) to confirm the page number.
9. When the scan is completed, the Text display (U) will show the message "FINISHED", the selected preset page will be renamed to "ATS-PRESET" and the first preset on the selected page will automatically be played.

> ⚠ **NOTE**
> When using the ATS feature on the SW band, all existing presets that have not been locked on the selected page number will be cleared.

> ⚠ **NOTE**
> When using the ATS feature on the SW band, the radio will store preset stations based on signal strength. If more stations are found than there are presets available on a preset page, the stations with the weakest signal will not be stored. If no stations are found during the scan, the radio will tune to the start frequency of the set ATS scan range.

> ⚠ **NOTE**
> It is recommended to use a frequency range of approximately 5MHz for ATS scans and repeat scanning this range on different pages until no new presets are found. This way, several preset pages can be populated with presets and the entire SW band can be covered in a quick manner.

USING SCAN TUNING

The scan tuning feature of the ATS-909X2 can be used on any band to automatically scan from the current frequency to the nearest strong station with a higher / lower frequency.

Follow these steps to use the scan feature:

1. Turn on the radio using the Power button (10).
2. Select the desired waveband by pressing the corresponding button.
3. Press and hold one of the Tuning Up / Down buttons (18).
4. The radio now automatically scans for the nearest station with a strong signal and a higher / lower frequency and will play this station once it has been found.
5. Repeat step 4 to find to tune to other radio stations.

> ⚠ **NOTE**
> The sensitivity of the scan tuning feature can be adjusted by setting the squelch level. See "SETTING THE SQUELCH LEVEL" section in chapter 5 for more information.

USING MANUAL TUNING

Manual tuning can be used on any band to either input the frequency of a radio station directly or to manually tune or fine-tune to a station using small steps.

DIRECT TUNING

Follow these steps to directly tune to a radio station of which you know the frequency:

1. Turn on the radio using the Power button (10).
2. Press the Freq button (25).
3. Use the numeric buttons (19) and the Decimal point button (32) to enter the frequency.

   Examples:

   FM 107.85MHz: Press Freq (25) → 1 → 0 → 7 → . → 8 → 5 → Enter

   SW 25785kHz: Press Freq (25) → 2 → 5 → 7 → 8 → 5 → Enter

   Or Press Freq (25) → 2 → 5 → . → 7 → 8 → 5 → Enter

   AIR 123.450MHz: Press Freq (25) → 1 → 2 → 3 → . → 4 → 5 → Enter

   AM 1620kHz: Press Freq (25) → 1 → 6 → 2 → 0 → Enter

   LW 257kHz: Press Freq (25) → 2 → 5 → 7 → Enter

> ⚠ **NOTE**
> If the desired frequency is on the FM band, a decimal point must be added when inputting the frequency.

MANUAL TUNING

To tune to a radio station of which you know the frequency or to fine-tune to a station, follow these steps:

1. Turn on the radio using the Power button (10).
2. Select the desired waveband by pressing the corresponding button.
3. Use the Rotary Tuning knob (16) or Tuning Up / Down buttons (18) to tune to a higher / lower frequency.

SETTING THE TUNING STEP

When using manual tuning, the frequency change per tuning step using the Rotary Tuning knob (16) and the FM tuning step using the Tuning Up / Down buttons (18) can be adjusted.

To adjust the Rotary Tuning knob (16) tuning step for the SW, MW, LW, FM and AIR band, simply press the Step button (17) when listening to a radio station. The Tuning step indicator (O) on the display shows which tuning step is currently selected. In addition, you can press and hold the Step button (17) to disable tuning with the Rotary Tuning knob (16). Hold the Step button (17) again to enable tuning with the Rotary Tuning knob (16) again.

To adjust the FM tuning step of the Tuning Up / Down buttons (18), follow these steps:

1. Press and hold the Menu button (29) to open the menu.
2. Use the Rotary Tuning knob (16) to select "FM STEP" in the Text display (U).
3. Press the Step button (17) or Enter button (30) to start configuring the setting.

   The current FM tuning step will now blink in the Text display (U).
4. Use the Rotary Tuning knob (16) to select 50kHz, 100kHz or 200kHz.
5. Press the Step button (17) or Enter button (30) to confirm your choice.
6. Press the Menu button (29) to close the menu.

The MW / AM tuning step can be adjusted using the MW / AM tuning step switch (48), which is located inside the battery compartment. This switch can be placed in either the 9kHz or 10kHz position. In Europe and most other parts of the world this switch must be placed in the 9kHz position, while in America this switch must be placed in the 10kHz position.

Finally, the ATS-909X2 also features a quick tuning feature. This feature can be used by pressing and holding the Enter button (30) while simultaneously rotating the Rotary Tuning knob (16). Quick tuning allows for even larger frequency steps, but it can only be used on the AIR, FM and SW bands.

The following table shows the available tuning steps for the Rotary Tuning knob (16) and the Tuning Up / Down buttons (18) for each of the wavebands:

		AIR	FM	LW	MW	SW
Rotary Tuning knob	STOP	0	0	0	0	0
	FAST	25kHz	100kHz	9kHz	9kHz 10kHz	5kHz
	SLOW	5kHz	50kHz	1kHz	1kHz	1kHz
Tuning Up / Down (scan or seek)		25kHz	50kHz 100kHz 200kHz	9kHz	9kHz 10kHz	5kHz
Quick Tuning		1MHz	1MHz	-	-	100kHz

STEREO RECEPTION

The ATS-909X2 is designed to receive FM stereo broadcasts. When the radio is tuned to an FM station of sufficient strength, the FM stereo indicator (Ab) will be

shown on the display and the broadcast will be played in stereo if headphones are connected or an external device is connected to the LINE OUT jack (38).

⚠ NOTE

The radio can be forced to play FM radio stations in mono by using the "FM STEREO" setting in the menu. This can help reduce noise when listening to FM stations. More details on how to enable this feature can be found in chapter 6 "USING THE MENU".

ADJUSTING THE VOLUME

The volume of the radio can be adjusted by rotating the Volume Control knob (12) clockwise to increase the volume or counterclockwise to decrease the volume.

USING PRESET STATIONS

The ATS-909X2 allows you to store up to 1674 radio stations in the memory of the radio. The radio has three memory banks that can each store up to 558 preset stations.

The following table gives an overview of the number of stations that can be stored in one memory bank for each of the wavebands:

WAVEBAND	PRESET PAGES (9 PRESETS P PAGE)	TOTAL NO. OF PRESETS
AIR	5	45
FM	4	36
MW	3	27
LW	1	9
SW	49	441

STORING PRESET STATIONS IN MEMORY – MW / LW / FM / AIR

Follow these steps to save preset stations on the MW, LW, FM and AIR bands:

1. Turn on the radio using the Power button (10).
2. Select the desired waveband by pressing the corresponding button.
3. Tune to the station you want to store in the preset memory as described earlier.
4. Press the Memo button (24).

   The Memo indicator (X) and the first available preset position (S) will now be blinking on the display.
5. To store the station at the first available position, press the Enter button (30) to confirm and store the preset to that position.

   To store the station to a different preset position:
6. Press the Page button (27) to select the desired page.
7. Press any of the numeric buttons (19) to save the station to the corresponding preset position.

⚠ NOTE

If another station has already been stored at a preset position that is selected, then the station that was previously stored at that preset position will be moved to the first available empty preset position (even if that preset position is located on another page).

STORING PRESET STATIONS IN MEMORY – SW ONLY

The procedure for storing stations on the SW band is slightly different from the procedure for the other bands described above. Follow these steps to store stations on the SW band:

1. Turn on the radio using the Power button (10).
2. Select the SW band by pressing the SW button (20).
3. Tune to the station you want to store in the preset memory as described earlier.
4. Press the Memo button (24).

   The Memo indicator (X) and the first available preset position (S) will now be blinking on the display.
5. To store the station at the first available position, press the Enter button (30) to confirm and store the preset to that position.

   To store the station to a different preset position:
6. Use the Rotary Tuning knob (16) or Tuning Up / Down buttons (18) to select a page number.
7. Now either press the Enter button (30) to save the station to the first available position (S) on that page or press any of the numeric buttons (19) to save the station to the corresponding preset position.

⚠ NOTE

If another station has already been stored at a preset position that is selected, then the station that was previously stored at that preset position will be moved to the first available empty preset position on the same page.

If a page on the SW band already has 9 stations preset in the radio's memory, then you will have to either select a different page manually or overwrite one of the existing presets by pressing and holding the numeric button of that preset position. Overwritten presets will be moved to a different page if there are pages left with available preset positions.

⚠ NOTE

Because shortwave reception can be affected by weather conditions, radio stations on the shortwave band may have different frequencies on which they can be received depending on the conditions. It is therefore a good idea to store several frequencies for the same radio station on the same preset page, as the radio will automatically scan for the preset with the strongest signal when a page is selected on the SW band.

RECALLING PRESET STATIONS – MW / LW / FM / AIR

Follow these steps to recall a preset station on the MW, LW, FM and AIR bands:

1. Turn on the radio using the Power button (10).
2. Select the desired waveband by pressing the corresponding button.
3. Select the page that the preset station is on (if applicable) by repeatedly pressing the Page button (27).
4. Press any of the numeric buttons (19) to recall the corresponding preset station.

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RECALLING PRESET STATIONS – SW ONLY

Follow these steps to recall a preset station on the SW band:

1. Turn on the radio using the Power button (10).
2. Select the desired waveband by pressing the corresponding button.
3. Press the Page button (27) once and then use the Rotary Tuning knob (16) or Tuning Up / Down buttons (18) to select the desired page number.
4. Press the Enter button (30) to confirm the page number.

   The radio will now scan the selected page and automatically select the preset with the strongest signal on the selected page.
5. Press any of the numeric buttons (19) to recall the corresponding preset station.

LOCKING PRESET STATIONS

After storing preset stations, it is possible to lock them in order to prevent accidentally deleting them, for instance because of accidentally starting the ATS feature.

1. Turn on the radio and recall the desired preset station as previously described.
2. Press the Memo button (24).

   The Memo indicator (X) and the preset position of the selected station (S) will now be blinking on the display.
3. Press the Memory Lock button (26).

   After locking a preset station, the Preset lock indicator (V) will be shown on the display to indicate the preset station is locked and cannot be deleted.

   Repeat this procedure to unlock preset stations again.

DELETING PRESET STATIONS

To delete a preset station from the radio's memory, follow these steps:

1. Turn on the radio and recall the desired preset station as previously described.
2. Press the Memo button (24).

   The Memo indicator (X) and the preset position of the selected station (S) will now be blinking on the display.
3. Press the Cancel button (31).

⚠ NOTE

Locked stations cannot be deleted using this method. When trying to delete a locked preset station, the Text display (U) will show the message "MEMO LOCK". In this case the preset station can only be deleted by unlocking it first.

MOVING PRESET STATIONS TO ANOTHER POSITION

Preset stations can be moved to another preset position and / or page. If another station is already saved at the desired preset position, then the stations will switch positions if they are on the same page. If they are not on the same page, the station that was originally saved at the selected preset position will be moved to the first available preset position.

You can move a preset station in memory by following these steps:

1. Turn on the radio and recall the desired preset station as previously described.
2. Press the Memo button (24).

   The Memo indicator (X) and the preset position of the selected station (S) will now be blinking on the display.
3. Select the desired page using the Page button (27).
4. Press the numeric button (19) corresponding to the desired preset number.

⚠ NOTE

Although locked preset stations cannot be deleted, they can be moved using this feature.

RENAMING PRESET STATIONS – MW / LW / FM / AIR

The names of preset stations on the MW, LW, FM and AIR bands can be changed by following these steps:

1. Turn on the radio, select the MW, LW, FM or AIR band and recall the desired preset station as previously described.
2. Press the Edit button (28).

   The first character of the preset name will now blink in the Text display (U).
3. Use the Rotary Tuning knob (16) or numeric buttons (19) and Tuning Up / Down buttons (18) to select characters, edit them and enter the desired name.
4. Press the Enter button (30) to confirm and save the name.

RENAMING PRESET PAGES – SW ONLY

On the SW band, only preset pages have names. To change the name of a preset page, follow these steps:

1. Turn on the radio, select the SW band and recall the desired preset page as previously described.
2. Press the Edit button (28).

   The first character of the page name will now blink in the Text display (U).
3. Use the Rotary Tuning knob (16) or numeric buttons (19) and Tuning Up / Down buttons (18) to select characters, edit them and enter the desired name.
4. Press the Enter button (30) to save the name.

5. ADVANCED TUNING FEATURES

SETTING THE METER BAND – SW ONLY

When the SW band is selected, a meter band can also be selected to adjust the frequency range of the radio. In total, there are 14 meter bands available that can be selected as follows:

1. Turn on the radio using the Power button (10).
2. Press the ATS / METER / SW button (20) to select the SW band.
3. Press the ATS / METER / SW button (20) again.

The SW meter band indicator (Q) will now be blinking on the display.

4. Press one of the numeric buttons (19), the Memo button (24), the Freq button (25) or the Cancel button (31) to select the corresponding meter band.

   The following table shows which buttons (mentioned in step 4 above) correspond to which meter band and frequency range:

USER INPUT	METER BAND	FREQUENCY RANGE (MHz)
1	120m	2.300-2.495
2	90m	3.200-3.400
3	75m	3.900-4.000
Freq	60m	4.750-5.060
4	49m	5.900-6.200
5	41m	7.100-7.350
6	31m	9.400-9.990
Memo	25m	11.600-12.100
7	21m	13.500-13.870
8	19m	15.100-15.800
9	16m	17.480-17.900
•	15m	18.900-19.020
0	13m	21.450-21.750
Cancel	11m	25.600-26.100

⚠ NOTE

After selecting a meter band, the selected band will remain on the display as long as the radio is tuned within this meter band. When using scan tuning, the automatic scan will also loop within the selected meter band, unless you continue pressing one of the Tuning Up / Down buttons (18) till the frequency crosses the range of the meter band.

SINGLE SIDE BAND (SSB) RECEPTION – SW / MW / LW

SSB is very popular among ham and business radio users because of its efficiency. Amateurs who use SSB and transmit below 10MHz generally use the lower side band (LSB), while amateur and commercial stations transmitting above 10MHz generally use the upper side band (USB). Your ATS-909X2 is capable of receiving all USB and LSB transmissions.

To receive SSB stations:

1. Turn on the radio using the Power button (10).
2. Rotate the AM RF Gain jog dial (40) to the maximum position.
3. Select the SW, MW, or LW band by pressing the corresponding button.
4. Tune to an SSB station in accordance with earlier instructions.
5. As soon as you have tuned to an SSB station (you will not be able to clearly hear any speech), switch to SSB reception by pressing the SSB button (6) repeatedly to switch between AM, USB and LSB. The SSB indicator (G) on the display shows which band is currently selected.
6. After selecting the correct mode, use the STEP button (17) to select SLOW stepping and then use the Rotary Tuning knob (16) to fine-tune to the station.

⚠ NOTE

The minimum tuning step is set to 20Hz by default, but it can be changed to 10Hz in the menu. Refer to the next section for more information on setting the SSB tuning step.

SETTING THE SINGLE SIDE BAND TUNING STEP – SW / MW / LW

When using manual tuning on either of the single side bands, the frequency change per tuning step when using the Rotary Tuning knob (16) can be adjusted by following these steps:

1. Press and hold the Menu button (29) to open the menu.
2. Use the Rotary Tuning knob (16) to select "SSB STEP" in the Text display (U).
3. Press the Step button (17) or Enter button (30) to start configuring the setting.

   The current setting will now blink in the Text display (U).
4. Use the Rotary Tuning knob (16) to select 10Hz or 20Hz.
5. Press the Step button (17) or Enter button (30) to confirm your choice.
6. Press the Menu button (29) to close the menu.

   The following table shows the available tuning steps for the Rotary Tuning knob (16) and the Tuning Up / Down buttons (18) for the single side bands:

		LSB / USB		
		LW	MW	SW
Rotary Tuning knob	STOP	0	0	0
	FAST	1kHz	1kHz	1kHz
	SLOW	20Hz / 10Hz	20Hz / 10Hz	20Hz / 10Hz
Tuning Up / Down		9kHz	9kHz / 10kHz	5kHz

SETTING THE BANDWIDTH

The Bandwidth Control switch (13) allows you to choose whether the bandwidth for the various bands should be automatically set or manually set. When the switch is placed in the manual position, the Bandwidth Control button (26) can be used to change the bandwidth on the SW, MW, LW, FM and AIR bands.

A wide bandwidth can increase sound quality when receiving a strong signal, while a narrow bandwidth can make it easier to receive weak signals and overcome problems caused by interference. When selecting the narrowest bandwidth on the FM band, stereo playback is not always available.

There are 3 different bandwidth settings available for the AIR and FM bands, while the SW, MW and LW bands each have 5 different bandwidth settings:

Bandwidth	Indicator	FM	MW / LW	SW	AIR
WIDEST	AUTO	110kHz	6kHz	4kHz	6kHz
WIDE	AUTO	-	4kHz	3kHz	-
NORM	AUTO	85kHz	3kHz	2.5kHz	4kHz
NARROW	AUTO	-	2.5kHz	1.8kHz	-
NARROWEST	AUTO	65kHz	1.8kHz	1kHz	2kHz

To use automatic bandwidth control, place the Bandwidth Control switch (13) in the AUTO position. The bandwidth will now automatically be adjusted to the best setting according to the signal to noise ratio and the radio will keep monitoring the signal to noise ratio every 300 ms and adjust the bandwidth if needed.

It is also possible to manually adjust the bandwidth. To do this, follow these steps:

1. Turn on the radio using the Power button (10).
2. Select the desired waveband by pressing the corresponding button.
3. Place the Bandwidth Control switch (13) in the manual position.
4. Press the bandwidth button (26) repeatedly to select the desired bandwidth.

   The Bandwidth indicator (Ad) on the display shows the currently selected bandwidth.

⚠ NOTE

The bandwidth cannot be set when using the LSB or USB band. Pressing the Bandwidth Control button (26) has no effect in this case.

PERFORMING A PAGE SCAN – AIR ONLY

When using the AIR band, the AIR button (23) can be used to perform a page scan. When performing a page scan, the ATS-909X2 will tune to all preset stations that are saved on the current page and stop when it finds a station on which a signal is being received. If the signal is no longer received for the duration of the scan delay, the radio will continue scanning the other presets on the current page (see chapter 6 "USING THE MENU" for more information about setting the page scan delay).

To perform a page scan, follow these steps:

1. Turn on the radio using the Power button (10).
2. Select the AIR band using the AIR button (23).
3. Select the desired page using the Page button (27).
4. Press and hold the AIR button (23).
5. The radio will now perform a page scan, scanning all presets on the current page until it finds a preset that is broadcasting a signal.
6. If no suitable station can be found the radio will keep scanning the selected page.
7. To cancel the page scan, press the AIR button (23) once again.

⚠ NOTE

The common airband is normally used for short-term transmission. The page scan feature can monitor 9 preset stations at the same time. If a radio signal is being received on a certain preset, the radio will stop scanning and tune to that preset. When the radio no longer receives a signal on this frequency, it will wait 0.5 second to 2 seconds (depending on the set scan delay) and, if no signal is being received anymore, then continue the page scan.

SETTING THE SQUELCH LEVEL

Background hiss or static noise is present to some degree at every location. This is a normal phenomenon. The Squelch button (8) can be used to set the squelch level above the background noise level in order to skip unwanted stations or interference when automatically scanning, making it easier to find voice transmissions from stronger stations.

It is recommended to keep the squelch level as low as possible (to a level just before static noise can be constantly heard). This way, signals that may be weak can still be heard. If the squelch level is set too high, weak voice transmissions may be suppressed as well.

The squelch level can be adjusted using the following steps:

1. Turn on the radio using the Power button (10).
2. Press the Squelch button (8).

   The Squelch indicator (N) will now be shown on the display and 'SQUELCH' is blinking in the Text display (U).
3. Rotate the Tuning Control knob (16) clockwise to increase the squelch level or counterclockwise to decrease the squelch level.

   When the receiving RF level is lower than the set squelch level, the Squelch indicator (N) will be shown on the display of the radio.

SETTING THE RF GAIN

The AM RF Gain jog dial (40) can be used to enhance the gain of the RF amplifier while listening to the AM band. A higher gain level helps receiving signals from further away, but can also saturate the RF amplifier when the radio is situated near a strong electric field, causing it to no longer receive any normal signal. In this case, the RF gain should be lowered to avoid such saturation effects.

In general, it is recommended to place the AM RF Gain jog dial (40) in the maximum position for the best reception.

6. USING THE MENU

The menu of the ATS-909X2 can be accessed by pressing and holding the Menu button (29) while the radio is powered on or off. After accessing the menu, the Rotary Tuning knob (16) can be used to browse through

the available settings and to select settings, while the Step button (17) or Enter button (30) can be used start configuring settings or confirm selected settings.

The following settings can be found in the menu:

MANUAL / RDS CT	**[RDS CT]:** Set the clock using RDS CT when available. **[MANUAL]*:** Set the clock manually and ignore RDS CT.
FORMAT	**[24H]*:** Use the 24-hour clock format. **[12H]:** Use the 12-hour clock format with PM indicator.
BACK LIGHT	**[LIGHT 10S]:** backlight timeout 10 seconds. **[LIGHT 20S]*:** backlight timeout 20 seconds. **[LIGHT 30S]:** backlight timeout 30 seconds. Use this setting to configure the backlight timeout when using battery power.
FM STEREO	**[FM.ST AUTO]*:** Use FM stereo mode when available **[FM.ST MONO]:** Force the radio to use FM mono mode. Use this setting to allow for stereo playback (when headphones or an external device are connected) or force mono playback. Forcing mono can sometimes help reduce noise.
SOFT MUTE	**[S. MUTE ON]:** FM softmute enabled. **[S. MUTE OFF]*:** FM softmute disabled. Softmute can reduce background hiss / noise of fading FM signals.
MEMOBANK A / B / C	**[MEMOBANK A]*:** Select memory bank A. **[MEMOBANK B]:** Select memory bank B. **[MEMOBANK C]:** Select memory bank C. The ATS-909X2 features 3 memory banks each capable of storing 558 preset stations. Use all 3 of them to store up to 1674 preset stations.
FM STEP	**[FM 50kHz]:** Tuning Up / Down button FM tuning step 50kHz. **[FM 100kHz]*:** Tuning Up / Down button FM tuning step 100kHz. **[FM 200kHz]:** Tuning Up / Down button FM tuning step 200kHz.
FM RANGE	**[FM 64-108 M]:** Set the FM range to 64-108 MHz. **[FM 76-108 M]:** Set the FM range to 76-108 MHz. **[FM 87-108 M]:** Set the FM range to 87-108 MHz. This setting can be used to configure the FM range, based on the country that you are currently in.
SSB STEP	**[SSB 10Hz]:** Tuning Up / Down button SSB tuning step 10Hz. **[SSB 20Hz]*:** Tuning Up / Down button SSB tuning step 20Hz.
BEEP ON / OFF	**[BEEP ON]:** Turn on the confirmation beep for certain operations. **[BEEP OFF]:** Turn off the confirmation beep for certain operations.
SCAN DELAY	**[P.SCAN 0.5S]:** Set the page scan delay to 0.5s. **[P.SCAN 1.0S]*:** Set the page scan delay to 1.0s. **[P.SCAN 1.5S]:** Set the page scan delay to 1.5s. **[P.SCAN 2.0S]:** Set the page scan delay to 2.0s. This setting can be used to configure the page scan delay for the AIR band. This is the time the radio waits for a signal on a preset frequency (when no signal is being received) before continuing a page scan.
VER XXX	This setting displays the software version. The software version is only for reference and cannot be changed.
FACTORY	**[RESET NO]*:** Do not perform a factory reset. **[RESET YES]:** Perform a factory reset. A factory reset restores the clock time / alarm / menu settings to the factory defaults. Preset stations and memory banks will not be deleted.
Note: The default settings are indicated with an asterisk (*).	

7. OTHER FEATURES

USING ALARM TIMERS

SETTING AN ALARM TIMER

The ATS-909X2 features three alarm timers which can be set when the radio is powered on or off using the timer buttons (5). The alarm timers can be configured to use either the radio's buzzer or a radio station to wake you up.

To set an alarm timer, follow these steps:

1. Press one of the timer buttons (5).

The TIMER indicator (J), the corresponding Timer number indicator (M) and the Alarm source indicator (K / L) of the selected alarm source will now blink on the display.

2. Select the alarm source (radio or buzzer) using the SSB button (6).

   The indicator of the selected alarm source (K / L) will be blinking on the display.

3. Use the numeric buttons (19) to set the alarm time (e.g. to enter 11:00, press 1-1-0-0).
4. Press the Enter button (30) to confirm the alarm time and the alarm source.
5. The radio will produce a beep to indicate that the settings have been saved and the alarm is activated.
6. If the radio is set to use the 12-hour clock format, press the Decimal point button (32) to set either AM or PM. When PM is selected, the PM indicator (E) will be shown on the display.

   If the alarm source has been set to radio in step 2, a radio station should still be added to the alarm. To do this:

7. Tune to a radio station as previously described.
8. Press the Memo button (24).

   The Memo indicator (X) and preset indicator (S) will now be blinking on the display.

9. Press the timer button (5) of the alarm timer that you want to assign the station to.

   When an alarm timer has been set and is active, the corresponding Timer number indicator (M) will permanently be shown on the radio's display. The alarm timer that is closest to the current time is marked with a rectangle in the Timer number Indicator (M).

⚠ NOTE

The buzzer alarm uses the Humane Wake System (HWS). This means that when the buzzer alarm activates, the alarm will start softly and gradually increase in volume. It will repeatedly sound for 1 minute and be muted for 1 minute over a period of 30 minutes, unless the alarm is stopped. If a radio station is used as the alarm source, then the radio will sound non-stop at the selected time for 60 minutes, unless the alarm is stopped.

WHEN AN ALARM SOUNDS

STOPPING AN ALARM

When an alarm sounds, press the POWER button (10) to stop the sounding alarm.

USING THE SNOOZE FEATURE

When an alarm sounds, press any button (except the Power button (10) or Backlight button (11)) to snooze the alarm for 5 minutes. This procedure can be repeated during the alarm period. The Snooze indicator (H) is shown on the display while the snooze feature is active.

DEACTIVATING AN ALARM TIMER

If an alarm timer is activated, press the corresponding timer button (5) followed by the Cancel button (31) to deactivate the alarm timer. The corresponding Timer number indicator (M) will now no longer be shown on the display.

SETTING THE SLEEP TIMER

The sleep timer allows you to automatically turn off the radio after a preset time has elapsed. It can be set from 90 minutes to 10 minutes in 10 minute decrements.

To set the sleep timer, press and hold the Power button (10) and release it when the desired sleep time is shown in the Text display (U) on the display. An active sleep timer is indicated on the display by the Sleep timer indicator (I).

DISPLAYING SIGNAL INFORMATION

The Info button (29) can be used in all modes to display basic information about the signal that is being received. After tuning to a radio station on the SW, MW, LW or AIR band, or an FM station that is not broadcasting RDS / RBDS information, repeatedly press the Info button (29) to display the following information in sequence:

1. Preset or page name - Display the name of the preset or preset page.
2. Signal RF strength - Displays the signal strength in dB.
3. Signal to Noise ratio - Displays the signal to noise ratio in dB.
4. Memory bank A / B / C - Displays the memory bank that is currently being used.

The available layers of information and the information that is displayed are also shown in the table below:

Layer	SW / MW / LW / AIR / FM without RDS or RBDS
1	Preset or page name
2	RSSI -- xxDB
3	SNR -- xxDB
4	MEMOBANK - A / B / C
Note: RSSI: Radio Signal Strength Indication SNR: Signal to Noise Ratio	

⚠ NOTE

If your radio is tuned to an FM station that broadcasts RDS / RBDS information, the Info button (29) can show additional information. Refer to the next section for more information about RDS and additional information it offers.

USING THE RDS FEATURE – FM ONLY

Radio Data System (RDS) is a service that allows FM stations to broadcast additional information. The ATS-909X2 is capable of receiving RDS / RBDS signals. When receiving an FM radio station that broadcasts RDS data, the station name will be displayed in the Text display (U) and the display will show the RDS indicator (Aa).

If the RDS CT indicator (D) is shown on the display, this means that the radio's clock has been automatically synchronized with the clock signal broadcasted by the FM radio station. This feature must be enabled (it is disabled by default) for the radio to be able to synchronize its clock

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using the signal (see chapter 6 "USING THE MENU" for more information). The RDS CT feature is a convenient feature that enables you to always have the correct time set when tuning in to an FM station that broadcasts an RDS CT signal.

⚠ **NOTE**

Not all stations broadcast the CT and many are not always accurate, this is the fault the broadcast signal not the radio.

When tuned to an FM station with RDS, additional information that is being broadcasted can be shown in the Text display (U) by repeatedly pressing the Info button (29). The radio will show the following information in sequence:

1. Preset name - Displays the name of the preset.
2. Program service name - Displays the name that is broadcasted by the radio station.
3. Program Type - Displays the type of program that is being received.
4. Radio Text - Displays text message that is broadcasted by the radio station.
5. Signal strength - Displays the signal strength.
6. Signal-noise ratio - Displays the signal to noise ratio.
7. Memory bank A / B / C - Displays the memory bank that is currently being used.

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The available layers of information and the information that is displayed are also shown in the table below:

Layer	FM with RDS or RBDS
1	Preset name
2	RDS / RBDS PS
3	RDS / RBDS PTY
4	RDS / RBDS RT
5	RSSI -- xxDB
6	SNR -- xxDB
7	MEMOBANK - A / B / C

Note: RSSI: Radio Signal Strength Indication

SNR: Signal to Noise Ratio

RDS: Radio Data System for Europe area

RBDS: Radio Broadcast Data System

USING THE RADIO TO CHARGE BATTERIES

The ATS-909X2 can be used to charge rechargeable NI-MH or NI-CAD batteries when the radio is powered off. Before charging batteries using the ATS-909X2, please first make sure that the batteries that are being used are rechargeable NI-MH or NI-CAD batteries.

Then follow these steps to charge the batteries:

1. Open the Battery Compartment cover (43) in the direction indicated by the arrow on the cover.
2. Insert 4 x NI-MH or NI-CAD (AA Size) batteries into the Battery Compartment (43) with polarities as shown on the diagram on the cover and inside the compartment.
3. Place the Battery switch (47) in the NIMH / NICAD (Charger) position.
4. Close the Battery Compartment (43) again.
5. Make sure the radio is turned off to charge the batteries.

   The Charge indicator (9) will blink in red when the batteries are being charged.
6. When the batteries are fully charged, the Text display (U) will show the message "BATT FULL".

⚠ **NOTE**

If any abnormalities are detected while charging batteries, the Text display (U) will show the message "BT-X-CHECK", where "X" represents the number of the battery that needs to be checked and / or replaced (e.g. "BT-1-CHECK" means that battery 1 needs to be checked and / or replaced). Which battery corresponds to which battery number is shown both on the battery compartment cover (43) and inside the battery compartment (43).

SETTING THE DISPLAY BRIGHTNESS LEVEL

The Backlight button (11) can be used to illuminate the display or to set the brightness level of the display. Press the Backlight button (11) repeatedly to select the desired brightness level or to illuminate the display when the backlight has turned off.

CHECKING THE SOFTWARE VERSION

The radio's software version can be shown both in the menu and by performing these steps:

1. Make sure the radio is powered off.
2. Press the Enter button (30), the radio shows the software version on its display.

   The version display cannot be altered and is just for your reference.

USING THE TONE CONTROL SWITCH

The Tone Control switch (14) at the right side of the radio allows you to adjust the tone of the radio based on the broadcasted programs. The switch has three settings: Music, Normal and News.

⚠ **NOTE**

This switch can also be used to reduce noise on the AM / USB / LSB bands by placing it in the News position. This can enhance the voice quality as well.

USING THE LOCK SWITCH

The Lock switch (15) can be used to prevent unintentional operation of the radio. This can come in handy to prevent the radio from being turned on when it is being transported or to prevent the radio from accidentally being powered off.

When the Lock switch (15) is placed in the ON position, the radio will not respond to any user input and the Button Lock indicator (A) will be shown on the radio's display. To unlock the radio, place the switch in the OFF position. The Button Lock indicator (A) will now no longer be shown and the radio can be operated again using its buttons.

USING THE AUX IN JACK

You can listen to the sound of an external device through your ATS-909X2's speaker. To do this, simply connect the external device (such as iPod, MP3 player or CD player) to the radio's AUX IN jack (35) using a 3.5mm audio cable and then press the AUX IN button (39). The audio output of the external device will now be played through the speaker of your ATS-909X2 and the volume can be adjusted using the radio's Volume Control (12).

USING THE REC STANDBY / LINE-OUT JACKS

These jacks on the left side of the radio can be used to output audio (LINE OUT/38) and activate an external recorder using a timer (REC. STANDBY / 37) utilizing a 2.5 or 3.5mm audio cable.

Both jacks can be connected to the LINE IN (or AUX IN) jack of an external device to record or play the programs received by the ATS-909X2. The REC. STANDBY jack has the additional benefit of being able to activate certain external recorders, such as Sangean's DAR-101, using an alarm timer on the ATS-909X2.

Refer to your external recorder's user manual to determine whether your external recording device is compatible with timer activated recording. More details about how to set the alarm of the ATS-909X2 can be found in the "SETTING AN ALARM TIMER" section above.

- For more information on the SANGEAN DAR-101 Digital Audio Recorder, which supports timer recordings using the REC. STANDBY (37) and LINE OUT (38) jacks, go to: https://www.sangean.com/products/product.asp?mid=166&cid=9

⚠ NOTE

The LINE OUT jack (38) differ from the Headphones jack (42). The volume level of the Headphones jack (42) varies depending on the volume of the radio. The LINE OUT jack (38) have a fixed volume level, so the output level is consistent regardless of the position of the Volume Control (12) or Tone Control switch (14).

⚠ WARNING

Don't connect the AUX IN jack (35) of the ATS-909X2 to a LINE OUT jack of an external recorder, while also connecting either the LINE OUT jack (38) to the AUX IN jack of an external recorder.

USING THE HEADPHONE JACK

Plug a pair of headphones with a 3.5mm plug into the Headphones jack (42) on the left side of the ATS-909X2 to listen to the radio using headphones. When a pair of headphones is connected to the radio, the internal speaker is automatically muted.

USING THE RESET SWITCH

The Reset Switch (46) at the bottom of the radio will reset the time and microprocessor of the radio only. All settings, alarm timers and preset stations will still be available in the radio's memory. After using this switch, the time can be reprogrammed following the instructions in the "SETTING YOUR LOCAL TIME AND TIME ZONE" section in chapter 3.

8. TECHNICAL DATA AND SPECIFICATIONS

TECHNICAL DATA

WAVEBANDS	FREQUENCY (MHz)
AIR	118MHz - 137MHz
FM (VHF)	87.5-108 MHz (USA version) 76-108 MHz (European version) 64-108 MHz (Russian version)
AM / MW	AM: 520-1710 kHz (USA version) MW: 522-1710 kHz (European version)
LW	153-519 kHz (USA version) 100-519 kHz (European version)
SW	(Shortwave) 1.711-29.999 MHz

SPECIFICATIONS

Power Requirements	
Batteries	4 x UM3 (AA Size)
Battery Life	Approx. 24 hours of listening with a speaker output of 10mW when using normal Alkaline batteries
Charging current	500mA
Rechargeable battery charging time	Approx. 5hours when using 2100mAH Ni-HM batteries
Battery life and battery charging time depend on battery capacity.	
External Power Supply	DC 9V 1.2A / center pin positive Diameter of center tip pin: 2.0mm
Circuit Features	
Speaker	3" / 4Ω / 3W
Output Power	600mW by battery 6V, 1.3W by DC-IN 9V
AM EXT. ANT jack	3.5mm stereo jack Input impedance: 50ohm @ 10MHz
AUX IN jack	3.5mm jack
LINE OUT jack	3.5mm stereo jack Output level: 150mVrms - 30% modulation Output impedance: 1kohm
STANDBY jack	2.5mm jack single tip
Headphones jack	3.5mm stereo socket
Operating temperature range	-10°C to +45°C
Dimensions (W x H x D)	207 x 134.5 x 41 (mm) 8.15” x 5.3” x 1.61”
Weight	728g (25.68oz) without battery

Sangean reserves the right to amend the specifications without notice.

DISPOSAL OF YOUR OLD PRODUCT

If at any time in the future you should need to dispose of this product please note that: Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice. (Waste Electrical and Electronic Equipment Directive)

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